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ABSTRACT

This report based on data collected from 17 school districts in eight states throughout the country, examines how local school districts allocate Chapter 1 and related resources to public school and private school students and describes the distribution of Chapter 1 resources. The report is organized into eight chapters. Chapter 1 presents an overview of the study and summarizes major findings. Chapter 2 presents the conceptual framework and the methodology used to collect information. Chapter 3 examines the composition of chapter 1 budgets and the impact of changes in Chapter 1 allocations on the portion of the budget devoted to instruction and administration. Chapter 4 describes the mechanisms that school districts use to determine the breadth and intensity of Chapter 1 instructional services. Chapter 5 shows how districts distribute resources across Chapter 1 schools and relates the distribution of Chapter 1 resources to the economic and educational characteristics of participating schools. Chapter 6 describes how districts allocate Chapter 1 resources to private schools and the impact of the Felton decision, prohibiting delivery of chapter 1 services on the premises of religiously-affiliated nonpublic schools, on these policies. Chapter 7 examines the interaction of Chapter 1 and other special needs programs. Chapter 8 contains the major conclusions of the study and implications of the study's findings for federal policy. The major finding was that the districts sampled employ a wide range of Chapter 1 services and exhibit considerable variety in the way they allocate Chapter 1 resources, and the factors which account for this variability are enumerated. (KH)

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SCHOOL DISTRICTS' ALLOCATION OF CHAPTER 1 RESOURCES

FINAL REPORT
Contract No. 400-85-1030

Margaret E. Goertz
Educational Testing Service

with the assistance of:

DRC
Ann Milne

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Richard J. Coley
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Gaffney, Anspach, Schember, Klimaski & Marks, P.C.
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Submitted to:

U. S. Department of Education
Washington, D.C.

February 1987

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Margaret E. Goertz, Project Director

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CHAPTER 1

INTRODUCTION

For the past two decades, the federal government has provided funds to local school districts to meet the special educational needs of educationally deprived children living in high poverty areas. The actual allocation of funds, under both Title I of the Elementary and Secondary Education Act and its successor legislation, Chapter 1 of the Education Consolidation and Improvement Act, involves four stages. First, the federal government allocates funds to counties within each state, using a formula that takes into account the number of low-income children in each county and the state per-pupil expenditures. Second, where county and school district boundaries are not coterminous, states distribute the money to school districts using a subcounty allocation formula based again on counts of low-income children. Third, the local school district determines which low-income schools will receive Chapter 1 resources. Finally, the district decides how these resources will be divided among participating schools and students. Because federal regulations provide little guidance in this last stage, the process of allocating Chapter 1 resources within school districts differs considerably from district to district and results in variations in the type and level of services provided to participating schools and students.

Little is known about how school districts make within district resource allocation decisions. Most prior research on the allocation of federal compensatory education aid focused on three areas: (1) the distribution of federal funds to local school districts (see for example, NIE, 1977; Berke, Moskowitz & Sinkin, 1976; and Berke & Kirst, 1972); (2) school selection and targeting (Gaffney & Schember, 1982; NIE, 1978); and (3) student selection

(Advanced Technology, 1983; Gaffney & Schember, 1982). This study, which is part of a Congressionally-mandated assessment of the Chapter 1 program, focuses on how school districts allocate resources to Chapter 1 schools and students. It describes the mechanisms used by a sample of local school districts to allocate Chapter 1 resources in 1985-86 and the resulting distribution of resources across schools in these districts; discusses the factors that underlie these resource allocation policies; and examines changes in resource allocation policies and patterns since 1980-81. The findings will assist policymakers in understanding how local school districts determine the size and shape of their Chapter 1 programs and how they allocate Chapter 1 resources to school sites.

Context of the Study

In December 1983, Congress required the U. S. Department of Education to conduct a National Assessment of Chapter 1 of the Education Consolidation and Improvement Act (ECIA), the replacement for Title I of the Elementary and Secondary Education Act of 1965. This National Assessment, which will provide information for reauthorization of the program in 1987, was designed to address three broad questions: Are those youngsters most in need of services receiving these services? Are the services the best that they can be? How does the program operate in school districts and how do federal rules and other factors influence practices at the local level?

The National Assessment of Chapter 1 program commissioned eight major studies to help it answer these questions. These studies include a review of research on the effectiveness of program design features used in compensatory education, two nationally representative surveys (one of local school districts and one of Chapter 1 schools and teachers), and five sets of case studies--state and local administration of Chapter 1, targeting practices used

in the Chapter 1 program, school district program design decisionmaking in Chapter 1, the whole-day instructional experiences of Chapter 1 students, and an examination of how school districts allocate Chapter 1 resources.

The findings from this study will be used, along with those of the other case studies, to describe the district decisions and practices that determine who receives Chapter 1 services and what these services look like, and to obtain a better understanding of those factors that influence local district service delivery decisions (e.g., legal requirements, budgetary constraints, local political pressures, educational philosophy, etc). The findings can also be used to address more specific concerns of federal policymakers, such as:

- Why is there variation across districts in average per pupil expenditures for Chapter 1?
- Within districts, to what extent is the allocation of Chapter 1 resources to participating schools related to differences in the needs of students in these schools?
- Has the state compensatory education "exclusion waiver" affected the way that districts allocate state compensatory education funds to Chapter 1 schools?
- How did districts respond to changes in their Title I/Chapter 1 allocations over the last five years?
- What impact did the Aguilar v. Felton decision have on how districts allocate resources to private school students?

Overview of the Study and Final Report

This study examines how local school districts allocate Chapter 1 and related resources to public schools and private school students and describes the distribution of Chapter 1 resources that result from these decision processes. It was designed to answer a series of research questions concerning the composition of Chapter 1 budgets, the breadth and intensity of Chapter 1 services, the allocation of Chapter 1 resources to participating public schools and private school students within districts, and the influence

of state compensatory education and other special needs programs on the allocation of Chapter 1 and special needs funds to Chapter 1 schools.

A multiple case study approach was used to collect and analyze data on how school districts allocate Chapter 1 resources and resources for related state and local compensatory education programs. Site visits were conducted in 17 school districts across eight states. The districts ranged in size (from 2,000 to over 300,000 students), poverty (from 6 to 37 percent poverty), urbanicity and region of the country. Site visitors spent from one to three weeks in each district, collecting both qualitative and quantitative information on how resource allocation decisions are made; the factors affecting the decision-making process, including change variables; the decision rules used to allocate resources to Chapter 1 schools and students; and the actual distribution of Chapter 1 and other compensatory education resources across schools. (The study's sampling plan, data collection procedures and data analysis activities are described in greater detail in Chapter 2 and Appendix A.)

The findings of the study are contained in the eight chapters of this report. This chapter summarizes the major findings and policy implications of the study. Chapter 2 presents the conceptual framework and the methodology used to collect information on school district resource allocation practices and outcomes. Chapter 3 examines the composition of Chapter 1 budgets and the impact of changes in Chapter 1 allocations on the portion of the budget devoted to instruction and administration. Chapter 4 describes the mechanisms that school districts use to determine the breadth and intensity of Chapter 1 instructional services. Chapter 5 shows how districts distribute resources across Chapter 1 schools and relates the distribution of Chapter 1 resources to the economic and educational characteristics of participating schools.

Chapter 6 describes how districts allocate Chapter 1 resources to private schools and the impact of the Felton decision on these policies. Chapter 7 examines the interaction of Chapter 1 and other special needs programs. Chapter 8 contains the major conclusions of the study and implications of the study's findings for federal policy.

Summary of Major Findings

The findings summarized here and reported throughout this volume are based on data collected from seventeen school districts throughout the country. Since our sites are generally larger and poorer than the average school district, caution must be exercised in generalizing from these findings to all school districts that participate in Chapter 1. The sample is diverse enough, however, to allow generalizations about how and why districts make certain kinds of resource allocation decisions and the factors that explain resource allocation outcomes across and within districts.

The major finding of this study is that our sample of districts exhibit a wide range in the breadth and intensity of the Chapter 1 services that they provide and exhibit considerable variety in the way they allocate Chapter 1 resources to participating schools and students. This variability is the result of complex decisionmaking processes that base resource allocation decisions on a number of different factors: the goals and objectives of the school district concerning the appropriate scope, intensity and design of Chapter 1 instructional programs; the level and type of educational needs of the students; the size of the Chapter 1 budget and the availability of other sources of compensatory education funds, such as state compensatory education aid; the way that states administer the Chapter 1 and state compensatory education programs; and state educational mandates, such as requiring the provision of pre-kindergarten services or compensatory education services to students who fail state minimum competency tests.

The districts in our sample use a variety of rules to allocate Chapter 1 resources to participating schools, including uniform allocations to each building (e.g., one teacher and/or aide per school), allocations based on the number of low-achieving students in a building (e.g., one Chapter 1 teacher for every forty low-achieving students), and allocations based on the relative size and/or poverty of the student body in the building. Most of the sample districts allocate instructional resources to schools in rough proportion to the number of Chapter 1 participants of Chapter 1 eligible students in each school, often taking into consideration the number of subject areas each student needed services in.

The inclusion of educational need in a district's allocation rules, however, did not necessarily yield a comparable level of services or similar Chapter 1 per pupil expenditures across participating schools. We found a wide range in the average staff case load and in per pupil expenditures across schools in 13 of our 17 sample districts. These variations tended to be randomly related to poverty, achievement and the concentration of Chaper 1 students.

The relationship between the actual distribution of Chapter 1 resources and the educational and economic characteristics of participating schools was explained instead by (1) the extent to which a need measure is embodied in a district's allocation formula; (2) the relationship of the need measure used to the actual building-level need; (3) the differential accretion across schools of Chapter 1 projects that use different resource allocation rules; and (4) the extent of building-level discretion in allocating Chapter 1 resources within the schools.

Other findings include:

- When faced with reductions in their Chapter 1 allocations, all but one district in our sample acted to maintain the integrity and intensity of their core instructional program.

- The districts in our sample allocated between two-thirds and all of their Chapter 1 budgets to direct instructional services, with half spending between 80 and 85 percent of their funds in this area. Changes in the level of Chapter 1 allocations generally had little impact on the percent of the budget allocated to instruction or to any other budget category.

- Districts in our sample used carryover funds to maintain stability in their Chapter 1 programs in times of both increases and decreases in allocations.

- The Supreme Court's decision in Aquilar v. Felton changed or eliminated services to private school students in 10 of the 13 districts that had been serving this population prior to the decision.

- The interaction of Chapter 1 and state compensatory education (SCE) funds varied across our sample. Districts used SCE funds to split-fund Chapter 1 positions; to serve Chapter 1 eligible, but unserved, schools or children; to provide services in different program areas; or to provide services to Chapter 1 participatns at different times of the day (e.g., tutoring before or after school).

- We found no evidence that districts in our sample consciously reallocated SCE money to non-Chapter 1 attendance areas after Chapter 1 authorized an exclusion from the supplement, not supplant provision for state and local compensatory education funds. We did find some indications, however, that Chapter 1 eligible students in some of our districts may not be receiving the share of SCE services that Title I would have required.

- The concentration of LD and bilingual/ESL participants in Chapter 1 schools in our sample is generally comparable to that in non-Chapter 1 schools, leading us to conclude that the districts in our sample do not use Chapter 1 funds to subsidize services to these two special needs populatons.

Implications for Federal Policy

Under Chapter 1, school districts have a great deal of discretion in how they allocate federal compensatory education resources. This discretion has resulted in a wide range in the breadth and intensity of Chapter 1 services across school districts and a great deal of variation in how districts allocate resources to participating schools and students. Policymakers have expressed concern about this variation and its impact on the delivery of services to Chapter 1 participants. The findings from this study provide four lessons for policymakers interested in addressing these variations.

First, variations in program intensity among districts are caused in part by differences in program design (e.g., different staffing mixes, case loads, settings, etc.) and in part by the increasing variety and complexity of Chapter 1 programs in operation throughout the country. Chapter 1 programs contain different mixes of projects (e.g., pre-kindergarten, kindergarten, bilingual/ESL and basic skills replacement projects, as well as the traditional reading and math pullout projects) that bring with them different configurations of staff. When examining variations in per pupil expenditures across districts, policymakers must be sensitive to the fact that Chapter 1 is no longer primarily a reading program. It is hundreds of different programs designed to meet the needs of individual school districts.

Second, policymakers should not discuss differences in the breadth and intensity of Chapter 1 services among districts without considering the impact of state and local compensatory education services on the allocation of Chapter 1 resources. Districts in our sample that received state compensatory education aid generally used these funds to extend the range and/or to increase the intensity of compensatory education services. While the SCE "exclusion" waiver in Chapter 1 did not lead to a conscious reallocation of

SCE dollars away from Chapter 1 attendance areas in our districts, experiences in our districts point to two different directions that districts might take in the future. The waiver could encourage districts to make greater use of unified compensatory education programs, where students in need of remediation would receive comparable levels of service regardless of the Chapter 1 status of their school, or the waiver could lead districts to exempt Chapter 1 participants from participation in SCE-funded programs, resulting in a situation where Chapter 1 attendance areas would receive few SCE resources.

Third, while most of the districts in our study incorporated some measure of need in their subdistrict resource allocation formulas, few actually achieved an equitable distribution of Chapter 1 resources across participating schools. Equitable allocations of Chapter 1 staff can occur only if the following conditions are met in a district: (1) Chapter 1 projects are allocated based on the relative need of Chapter 1 schools; (2) Chapter 1 staff are allocated within projects in fractions of FTEs and in direct proportion to the number of eligible students; (3) the measure of need used in the allocation rule is the same, or close to, the measure used to select students; (4) staff allocations are based on duplicated, not unduplicated, counts of students; and (5) schools adhere to strict case loads.

Finally, district responses to changes in Chapter 1 allocations in the early 1980s reflected a number of factors, including the existing scope and level of services, availability of carryover funds, and extent of budget cuts in the past, but tended to involve reductions primarily in non-instructional services. Districts may face a different set of tradeoffs if Chapter 1 allocations are reduced in the future, however. Districts in some states are under pressure to reduce the level of Chapter 1 funds they carry over from one fiscal year to the next, limiting their ability to use carryover funds to

stabilize programs. Many districts no longer have the option of saving money by eliminating support services, and will have to cut parts of their core instructional program. And, as districts with larger programs expand the number of staff-intensive Chapter 1 projects (e.g., pre-kindergarten, bilingual/ESL, basic skills replacement programs), they may be forced to make tradeoffs among different types of instructional programs: pre-kindergarten versus elementary; replacement programs versus pullout; reading or math versus bilingual/ESL.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND METHODOLOGY

This chapter presents the study's conceptual framework and summarizes the methodology for answering the major study questions.

Conceptual Framework

A conceptual framework specifies the major components important to the area of inquiry and describes the ways in which these components relate. Since all subsequent research activities flow from the conceptual framework, it is meant to provide a plausible model of how events unfold in reality. It also defines significant factors to be examined by the researchers and provides the logic for organizing data collected in the study.

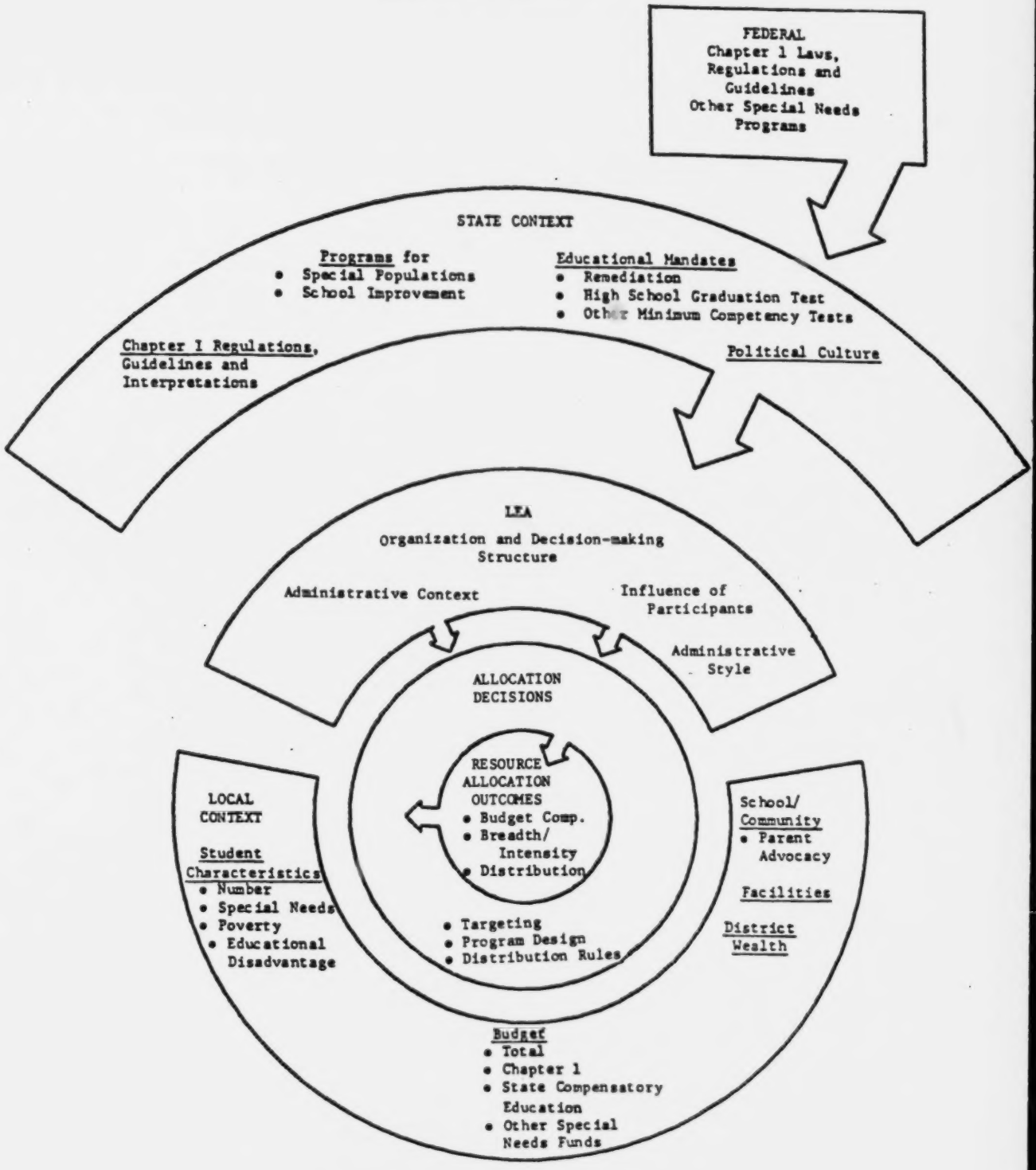
The conceptual framework presented in Figure 2-1 specifies three major components that are critical in understanding how resources are allocated to Chapter 1 schools and students. These components are (1) the resource allocation decisionmaking process; (2) the context in which Chapter 1 resource allocation occurs; and (3) outcomes of the resource allocation process.

The Resource Allocation Decisionmaking Process

We have conceptualized the resource allocation decisionmaking process as encompassing three sets of related decisions. The first set of decisions concerns the allocation of Chapter 1 resources among major budget categories (budget composition). What portion of Chapter 1 funds should be retained at the district level for non-instructional purposes and what portion should be allocated to the participating schools for staff who provide direct instructional services? How much of a district's Chapter 1 allocation should be carried over into the next fiscal year? The second set of resource allocation decisions involves determining what level of services should be

Figure 2-1

CONCEPTUAL FRAMEWORK FOR EXAMINING THE CHAPTER 1 RESOURCE ALLOCATION PROCESS AND RESOURCE ALLOCATION PATTERNS



provided to what number of Chapter 1 schools and students. Local school districts must decide how many of the potentially eligible Chapter 1 schools and students they wish to serve (breadth of service) and the intensity of services to be provided to the participants. Intensity of service is a measure of how much service students receive and how concentrated those services are. The third set of decisions concerns the distribution of resources to participating schools and students. What criteria and mechanisms should districts use in allocating resources to the building level? How much discretion should schools have in allocating these resources to Chapter 1 students? Should districts apply the same allocation rules to both public and private school students?

The process for making resource allocation decisions yields a set of local decision rules that determine the breadth and intensity of Chapter 1 services and guide how resources are allocated to Chapter 1 schools and students. Districts use different combinations of targeting and program design mechanisms to achieve their goals and objectives about the appropriate breadth and intensity of Chapter 1 services. For example, districts that wish to concentrate resources on a limited number of schools and students can set narrow eligibility criteria (e.g., only schools above the district average poverty, students scoring below the 25th percentile) and/or limit the number of eligible schools and students they wish to serve (e.g., serve schools above the district average, serve students below the eligibility criteria, serve limited grade spans, etc.). Conversely, districts that wish to "spread resources" might choose targeting options that expand the number of eligible schools and students (e.g., use the "25 percent" or "no-wide variance" rule, if applicable, for identifying eligible schools, or deem eligible all students

below the 50th percentile) and/or use selection criteria that include most or all eligible schools and students.

Program design is a broad term that encompasses decisions about the level and intensity of compensatory services, service delivery models, curriculum, staffing and coordination with other instructional programs. Program design decisions that affect the breadth and intensity of services include staffing (the mix of Chapter 1 teachers and aides in the program); case load (the average number of students each instructor serves); length of the instructional period and the average size of the instructional group; and the number of subject areas and grade spans served. For example, a district that uses only teachers to serve a limited number of students (e.g., average case load of 35-40) will provide a more intense service to participating students than a district that relies primarily on aides or requires Chapter 1 teachers to serve from 60 to 70 students daily.

Districts may have to make tradeoffs between the breadth and intensity of services, depending on the level of need in the district and the relative size of the district's allocation and/or the availability of other compensatory education resources. Thus, one district that designs an intensive program may not have the resources to provide this type of program to all eligible children, while another, located in a state with a sizeable state compensatory education aid program, may be able to provide a similarly intense program to many more students.

Districts also establish a set of resource allocation rules that determine how Chapter 1 resources are allocated to Chapter 1 schools and students. We drew on the public service delivery literature to categorize these rules (see, for example, Jones with Greenberg & Drew, 1980; Levy, Meltsner & Wildavsky, 1974; Lucy & Mladenka, 1978; and Merget, 1981.) Research on the outcomes of the municipal service delivery process over the

last decade has examined the distribution of municipal services and linked these distributional patterns to three different types of allocation rules: those that incorporate distribution standards; those that incorporate administrative criteria; and those that incorporate political criteria.

Rules that incorporate distribution standards focus on the distribution of resources across service recipients--in the case of Chapter 1, students and schools. Distribution standards can embody different equity criteria, such as equal dollars for each participating student; equal resources to all participating schools with equal grade spans; resources distributed to participating schools in proportion to educational need; and resources distributed to participating schools in proportion to economic deprivation.

Rules incorporating administrative criteria would relate the allocation of Chapter 1 resources to the types of program design models used in schools (e.g., schools with in-class projects would be allocated only aides); to availability of space for pullout programs or CAI programs in the schools (e.g., allocate computer labs only to those schools that have room for them); to the distribution of resources in preceding years (incrementalism); to the way a program operates in a given school; or to the implementation of new educational programs across the district (e.g., school improvement, new reading programs, etc.)

Political criteria come into play when decisionmakers allocate resources in response to the demands of individual principals, parents groups and/or political actors. They provide a specific level of resources to, or place a certain program in, a school that would not otherwise receive these additional services.

Districts may use a combination of these rules in allocating resources. For example, districts that use distribution standards (e.g., one teacher for every X Chapter 1 students) might modify their allocations to reflect

differences in facilities or in school-level educational programs. Districts that use incrementalism as a primary allocation criterion are building on an allocation system that incorporates an earlier set of distribution standards.

Factors Affecting The Chapter 1 Resource Allocation Process

A district's resource allocation decisionmaking process does not operate in a vacuum. Decisionmakers respond to inputs and are subject to conditions and events that they cannot control. They also are affected by the organizational structure in which they operate and their own values, goals and philosophies. This section describes the federal legal framework and state and local context in which Chapter 1 decisions are made.

The Chapter 1 legal framework. All decisions concerning the allocation of Chapter 1 resources are made within the context of the Chapter 1 law, regulations and guidelines. The federal legal framework applies to the concentration of Chapter 1 resources in a district and to the distribution of these resources across participating schools and students in the district.

Under both Title I and Chapter 1, districts must concentrate services on programs that "are of sufficient size, scope and quality to give reasonable promise of substantial progress toward meeting the special educational needs of the children being served. . ." (ECIA, Sec. 556(b)(3)). Districts have alternative ways of ensuring concentrated expenditure of Chapter 1 funds. They may (1) limit Chapter 1 projects to a small number of schools; (2) limit services to a small number of the most educationally deprived children in a greater number of schools; and/or (3) offer instructional services in only a few general instructional areas. These decisions, however, are subject to the law's school and student eligibility provisions which give districts a number of options in how they identify and select Chapter 1 participants.

Districts identify eligible school attendance areas according to their numbers or percentages of children from low-income families, or by methods

combining numbers and percentages. The district then establishes a criterion for identifying the "highest" poverty concentrations (under Title I that criterion was "above average"), which determines the attendance areas eligible.

The general policy for identifying eligible attendance areas is supplemented by several exceptions and options which increase flexibility in the ultimate selection of target schools. For example, districts may set the criterion for high poverty attendance areas at 25 percent poverty, even if the resulting number of eligible areas is larger than under the "above average" criterion. A district may decide to serve only certain grade spans, thus eliminating entire schools, such as middle or secondary schools. Districts with fewer than 1000 students are exempt from targeting requirements and may serve all schools. Every school may also be served when a "uniformly high concentration" of children from low-income families pervades all attendance areas. An otherwise eligible school attendance area or school which receives state compensatory education (SCE) services of the "same nature and scope" provided by Chapter 1 may be "skipped." Under certain circumstances, a district may also "skip" an attendance area having a relatively high concentration of children from low-income families, in favor of another attendance area having a "substantially higher" concentration of educationally deprived children.

A properly selected target area or school remains eligible for the next two succeeding fiscal years, even if it ceases to have a high concentration of children from low-income families. A school not located in an eligible attendance area, but enrolling a comparable concentration of children from low-income families, also may be deemed eligible.

The selection of target schools influences the eligibility of students, since only educationally deprived children in target schools may receive

services. To determine student eligibility for Chapter 1, districts must conduct an annual needs assessment to identify educationally deprived children in all eligible attendance areas. Defined under Title I as "children whose educational attainment is below the level that is appropriate for children of their age," these children might include a broader spectrum under district interpretations of the current law. Chapter 1 does not prescribe particular methods of measuring educational deprivation.

The needs assessment must also identify educationally deprived private school children who live in eligible attendance areas. As part of the needs assessment, districts identify general instructional areas, grade levels, and types of needs to be addressed. The needs assessment must provide "sufficient specificity to insure concentration" on the identified needs.

Chapter 1's student selection provisions generally reflect the Title I approach to serving the neediest students, but the law as finally amended requires only that children in greatest need be "among" the program participants, while Title I had required that the program be limited to such children.[1] Chapter 1 contains three student selection options derived from Title I, however. First, to permit continuity and to sustain gains, districts may serve students who received Chapter 1 services the previous year, even if they are not among those having the greatest need in the present year. Second, to enhance coordination with state compensatory education programs, Chapter 1 allows a district to "skip" a student receiving services of the "same nature and scope" from a state compensatory education program. Third,

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[1] The Chapter 1 legislative history states "while the range of children who can be served is broad, those served must include those in greatest need" (S. Rep. No. 98-166, 1983, p. 2). Whether an LEA may, however, select students in the 20th to 25th percentile (deeming them to be in greatest need), but then skip those from the 25th to 45th in favor of higher scoring students, is unclear.

to facilitate mid-year transfers because of desegregation or other causes, Chapter 1 permits such transferred students to receive Chapter 1 services for the rest of the school year.

While each district is supposed to concentrate its Chapter 1 resources, the law imposes no numerical standard limiting the number of eligible children that can be served. In the early days of Title I, Program Guide #44 offered two concentration standards: (1) the total per-pupil expenditure for compensatory education service should equal about one-half the expenditure per child from state and local funds for the regular school program; and (2) "the ratio of project staff to the number of children to be served should be high enough to provide concentrated individualized services." Chapter 1 and the Nonregulatory Guidance to SEAs do not include any such dollar or educational effectiveness standards. Rather, a state's determination of whether a district's Chapter 1 program meets the "size, scope and quality" provision may be based, "in part, on the LEA's assessment of the needs of children in its project areas . . . and the SEA's standards for the effective and efficient use of Chapter 1 funds in ways that meet those needs" (Section 9, Nonregulatory Guidance to SEAs, 1983).

Once districts make school and student eligibility and selection decisions, they have broad discretion in how they allocate Chapter 1 funds to public schools. Chapter 1 eliminated the requirement enacted in 1978 that resources be allocated "on the basis of the number and needs of children to be served" (Sec. 124(e) of Title I). The Chapter 1 regulations say nothing about how to allocate Chaper 1 resources to public schools. In response to a request from a state for guidance about this, however, the U.S. Department of Education suggested the following in a 1985 letter to the state:

> The services provided to the public school children who are selected to participate should be based on an analysis of their

> needs, and funds then allocated to best meet those needs. One way to do so is to ensure that Chapter 1 per pupil expenditures are roughly the same among schools; another would be to ensure that the Chapter 1 pupil-to-teacher ratios are roughly the same. However, the LEA could find that the dollar levels may need to vary at certain schools to meet needs for certain services that are not needed at other schools.

In allocating resources to participants in private schools, however, districts are required to ensure that expenditures for participating children in private schools are "equal" for public and non-public school students, taking into account the number and special educational needs of such children.

Chapter 1 contains other allocation-related provisions which may, depending on how they are interpreted by districts, influence the allocation of Chapter 1 resources. Title I had two supplement, not supplant provisions. The first governed the allocation of regular state and local funds and required that Title I funds be used to provide extra, rather than substituted, services.[2] The second governed the allocation of special state and local funds for compensatory education and required that educationally deprived children (in the aggregate) residing in Title I eligible areas receive their fair share of such special state and local funds, unless the district qualified for a "fully funded" exemption. Chapter 1 contains only one supplement, not supplant provision. This

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2 This provision had implications for both program design and services to students. With respect to program design, districts that used an extended pull-out or replacement model for a Title I project were supposed to contribute state and local resources to insure that Title I provided supplemental, rather than substituted, services. In providing services to students, Title I funds could not be used as a substitute for special services that districts were "required by law" to provide, e. g., services to handicapped and limited English-proficient students, as well as services to students requiring mandated remedial services under minimum-competency programs. Title I could provide services over and above those "required by law," but could not substitute for them.

provision does not require that educationally deprived children (in the aggregate) residing in Chapter 1 eligible areas receive their fair share of SCE. Chapter 1 also authorizes an exclusion from the supplement, not supplant provision for state and local compensatory education funds. In states and districts which are using the exclusion option, this significant change may alter how both Chapter 1 funds and state and local funds for compensatory education are allocated to schools.

The state context. The state context can affect the way local school districts allocate Chapter 1 resources in several ways, particularly the substance of state Chapter 1 regulations, guidelines and interpretatons; the existence of state programs for special needs students; and the existence of state educational mandates.

The way in which states administer the Chapter 1 program can restrict the administrative discretion of local districts. States played a major role in the implementation of Title I and continue to do so under Chapter 1. They distribute funds to local districts, approve LEA plans and assurances for use of funds, monitor and evaluate the operation of the programs and impose sanctions when LEAs violate program requirements. SEAs may issue their own programmatic rules, regulations, policies or guidelines as long as they are not inconsistent with federal laws and regulations. State responses to federal education policy vary along a continuum ranging from a limited concern with federal expectations to a faithful passing on or mirroring of federal provisions to intermediate or local jurisdictions. The middle position on this continuum characterizes states as adjusting federal requirements to suit their conditions or policy choices either by modifying the substance of federal provisions or adding to the requirements (Berke & Kirst, 1972; Goettel, Kaplan & Orland, 1977; McDonnell & Pincus,

Figure 2-2

Current Data (1985-85)

	General (all students)	Program (for participants)					
		Chapter 1	State/local	Bilingual	Special Educ.	Educ. Excellence	Regular Program
Project Level		Resources (teachers, aides)	Resources (teachers, aides)				
		Enrollment	Enrollment				
School Level		Resources (residual)	Resources (residual)	Resources	Resources	Resources	
				Enrollment	Enrollment	Enrollment	Enrollment
	Student Chars. (poverty, achievement, %LEP, handicapped)	Student Chars. (achievement)	Student Chars. (achievement)				
		School Participation	School Participation	School Participation	School Participation	School Participation	School Participation
Program Level		Resources (residual)	Resources (residual)				
		Enrollment	Enrollment	Enrollment	Enrollment	Enrollment	Enrollment
		Private School: enrollment, resources	Private School: enrollment, resources				
		Administrative data	Administrative data				
		Supportive Services	Supportive Services	Supportive Services		Supportive Services	
		Average Prices (personnel)	Average Prices (personnel)				
District	Student Chars. (poverty, achievement, %LEP, handicapped)						Per Pupil Expenditure
	Enrollment						Pupil/teacher Ratio

1977; and Moore et al., 1983). Research at the local level has shown that, in general, federal program requirements often become tighter as they are passed down from one level of government to another, particularly those concerning how to serve students who are eligible for more than one special program (Knapp, et al., 1983).

Many states have developed regulations and guidelines that influence local school district resource allocation policies. For example, a recent survey of Chapter 1 administrators in 17 states found that a majority of these states (11 of 17 states reporting) "either set some minimum standards or suggested 'rules of thumb' for districts on size, scope and quality" (Farrar & Millsap, 1986). These standards included pupil-teacher ratios or group sizes, amount of instructional time, per-pupil expenditures, student eligibility cutoffs and staff qualifications. An earlier survey of 50 state Chapter 1 directors showed that many state departments of education have definite views on how LEAs should allocate resources across Chapter 1 schools as well. When asked under what circumstances they would allow large differences in per-pupil Chapter 1 expenditures between buildings, only two state administrators mentioned they do not examine per-pupil expenditures across buildings within a district. The other responses ranged from not allowing large building-by-building differences in a district to allowing differences in certain circumstances to giving LEAs complete flexibility (Dougherty, 1985).

The existence of state special needs programs also affects the implementation of Chapter 1 programs at the local level. Sixteen states provide direct aid for compensatory education programs (Funkhouser & Moore, 1985). Chapter 1 (as did Title I) allows states with such programs to coordinate federal and state or locally funded compensatory education programs. Thus, in these states, LEAs can skip schools and students if

they are receiving services of the same nature and scope from non-federal compensatory education programs. State programs may bring with them additional administrative requirements, as well as additional funds, and these requirements may influence the way in which districts allocate Chapter 1, as well as SCE, resources.

A third state factor that may affect LEA resource allocation decisions is the existence of educational mandates. Forty states test students for proof of minimum basic skills; many of these states require LEAs to provide remedial services to students falling below a prescribed test score. Nineteen states require students to pass a proficiency test before receiving a high school diploma, while five states require successful performance on a minimum basic skills test as a condition of promotion from grade to grade (Siegel, 1985). Some states with these mandates require that districts provide compensatory education services to students scoring below a specified point on a state competency and/or district-selected test. These districts must determine how they will use Chapter 1 and/or state compensatory education aid to meet these mandates.

The local context. The number, residential location and educational needs of the children enrolled in the district and their distribution across schools affect how many students are eligible to receive Chapter 1 services. The size of the district's Chapter 1 budget, the availability of state and local compensatory education dollars, and funds for both the regular program and other special needs programs affect the level of resources allocated to Chapter 1 schools and students. The type of resources assigned can be influenced by the district's educational philosophy, the design of its Chapter 1 and other educational programs, the age and size of the schools receiving services, the educational philosophy of the school principal and the type of staff available in the schools.

The structure of the local decisionmaking process also affects resource allocation decisions. In some districts, components of the resource allocation process are decentralized. While central office staff select schools and students for participation in the Chapter 1 program and allocate resources to these schools, program design decisions and the allocation of resources to participating students are made at the building level by the principal and Chapter 1 coordinator. As a result, Chapter 1 programs and services to students may differ considerably across schools. In other districts, however, the sequence and locus of decisionmaking are different. All decisions are made at the central office in the following sequence: targeting, program design and resource allocation. In this context, the principal and school-level Chapter 1 staff do little more than list eligible students and schedule students; Chapter 1 services are relatively uniform across buildings.

The administrative context in which decisions are made may be another important factor in understanding differences in resource allocation procedures. Here we include such factors as the degree of hierarchy and control procedures in the organization (e.g., how much autonomy does the district Chapter 1 coordinator have?); the extent and source of leadership in the organization; the relationship of the office responsible for the program (e.g., Chapter 1) and other offices in the LEA; the extent to which the program is integrated or isolated from the regular educational program and other special educational programs; the procedures generally used within the organization to make decisions (e.g., how routinized are decisionmaking procedures; does the organization use incremental, program-based or zero-based budgeting techniques); and the administrative climate (e.g., the extent of bureaucratic rigidity, support for innovation, etc.).

One must also examine the decisionmakers' own values, predispositions and administrative style. Participants will bring different values to a decision. For example, they may differ on the most effective way to provide a service, on the most appropriate mix of resources to support an activity and/or on educational philosophy. Participants who have worked in the Chapter 1/Title I program for years may bring a different set of professional norms to their decisions than do participants from other programs. Individuals, as well as organizations, have different administrative styles, ranging from autocratic to democratic to laissez-faire. Some are willing to risk innovation; others are concerned with minimizing losses.

A final contextual factor is the local political culture. The political factors include the saliency of education in the community, the intensity of political conflict, and the extent to which political actors are involved in education decisionmaking either formally (through the school board or a board of estimate) or informally (transmitting community demands for changes in educational facilities and/or programs). School districts will also differ in the extent to which groups such as teacher unions, parents and school board members are involved in resource allocation decisions. Communities with a tradition of parent involvement in the schools or school districts that have retained Parent Advisory Councils under Chapter 1 may be more likely to have parental input into the Chapter 1 resource allocation process. Although teacher organizations are not likely to get directly involved with the administration of Chapter 1, provisions in their contracts (e.g., using seniority as the criterion for reducing or reassigning staff or setting a minimum number of hours that aides must work each day) may limit the flexibility that administrators have in allocating or reallocating Chapter 1 resources among schools.

Resource Allocation Outcomes

We selected four outcomes to examine the impact of each district's decision rules on the allocation of Chapter 1 resources: the composition of the Chapter 1 budget, the breadth of the Chapter 1 program, the intensity of the program, and the distribution of Chapter 1 resources across participating schools. We also developed a set of measures for each of these outcomes. For example, to examine the composition of Chapter 1 budgets, we calculated the percent of expenditures allocated to direct instructional activities, administration and support services for each of the 17 sample districts and examined what these dollars purchased in the way of teachers, aides, administrators, instructional support service personnel and non-personnel items.

Breadth and intensity of Chapter 1 programs are more complicated outcomes to measure. Because of data limitations, we settled on the following measures. The relative breadth of services is the percentage of Chapter 1 participants in a district related to its poverty rate. Intensity of service is the average case load for Chapter 1 staff in a district. Staff are counted on a full-time equivalent (FTE) basis and 2.5 FTE aides are considered the equivalent of one FTE teacher.[3]

We used four outcome measures to examine the distribution of resources across Chapter 1 schools in a district: (1) number of Chapter 1 projects in a school; (2) number of Chapter 1 staff in a school; (3) average case load

[3]We based our determination that 2.5 FTE aides equal one FTE teacher on resource allocation formulas in use in several of our sample districts.

for Chapter 1 staff; and (4) average per pupil Chapter 1 expenditure in a school.

All of these outcome measures are defined in greater detail in Chapters 3, 4 and 5.

Changes Over Time

The conceptual framework presented in Figure 2-1 is a dynamic model. Each year, the individuals who make resource allocation decisions must respond to changes in their environment, in the inputs into the system and to the decisionmaking process itself. For example, Chapter 1 allocations and allocations from state and local sources change annually, as do the number and distribution of students in need of remedial education services. At the same time, states and the federal government change or refine laws, regulations and guidelines concerning how these funds can be used and/or implement new requirements that affect the level and type of services that must be provided to their student body (e.g., high school graduation requirements, promotion gates, graduation test requirements). Priorities within the local school district change as well, as emphasis shifts from basic skills to higher order skills, from early childhood education to the high school program, or from the appropriateness of pullout programs to the use of in-class arrangements. New superintendents impart different educational philosophies and look to reallocate resources in support of their ideas. Political support for education varies, as does concern for the disadvantaged students in the community. In many urban communities, growing fiscal stress and the competition for funds to support municipal as well as educational services place constraints on the ability of the school district to raise local revenues for its programs.

Two studies examined the impact of changes in Title I budgets between 1978-79 and 1981-82 on the composition of these budgets, the number of schools and children served, program design decisions and intensity of services. Apling (1982) found that districts with level funding served 3 percent fewer schools and 5 percent fewer children in the latter year, while districts with significant budget cuts served 7 percent fewer schools and 17 percent fewer children. Allocations to instruction tended to parallel overall changes in the Title I budget. Title I administrators sought to preserve services to the elementary grades by dropping services from preschool and secondary school programs and to preserve Title I reading services by cutting math and programs in other subjects. Districts with substantial budget increases served more students in the same number of schools. Orland and Apling (1986) focused on changes in the intensity of services. They found that districts generally tried to maintain service intensity in spite of Title I budget cuts, but that the response varied by district size, prior intensity of the program and extent of budget decline. Both studies concluded, however, that districts can exhibit relatively diverse behaviors in responding to similar budget changes. Resource allocation decisions are complex and are made in the larger context of demographic changes, alterations in other sources of compensatory education funding, district poverty levels, and previous service intensity level.

Study Methodology

Multiple case studies were used to collect and analyze data on the subdistrict allocation of Chapter 1 resources. Site visits were conducted in 17 school districts across eight states. Site visitors collected both qualitative and quantitative information on how resource allocation decisions are made; the factors affecting the decisionmaking processs, including change variables; the decision rules used to allocate resources

to Chapter 1 schools and students; and the actual distribution of Chapter 1 resources across schools. Data were also collected on Chapter 1 and other compensatory education projects within schools, the resources allocated to these projects and the characteristics of the schools and students served by these programs. These variables were then aggregated to determine resource allocation patterns across particular types of projects and schools. The remainder of this chapter summarizes the study's sampling plan, data collection procedures and data analysis activities. More detailed information on the data collection and analysis methodologies is included in Appendix A.

Sampling Procedures

Although there are many contextual factors that have some effect on Chapter 1 resource allocation decisions, this study was limited by time and budgetary constraints to data collection in a relatively small number of school districts. Thus the degree of stratification that could be explicitly applied to site selection was limited to controlling for three primary factors:

- o the presence or absence of a state compensatory education program;
- o the size of the local school district; and
- o the degree of poverty present in the district.

To meet these constraints, a two-stage selection scheme was used. At the first stage, states were classified as either having, or not having, state compensatory education (SCE) programs. Within each of the two groups (with or without SCE programs), two large states and two small states were selected in a purposive manner, maximizing variability on a number of secondary factors:

- o a substantial increase or decrease in the state's Chapter 1 allocation;
- o the implementation of a state compensatory education program or the implementation of a high school graduation testing requirement or other state-mandated promotion gate policy after 1981;
- o region of the country; and
- o state administrative posture (assertive or non-assertive; compliance-oriented or assistance oriented).

At the second stage, districts were selected from each of the states in a way designed to yield balance on poverty and district size across the eight states. Another size criterion was introduced in the selection process, however. In order to insure the existence of resource allocation patterns among schools within a district, a site had to have a minimum of five schools. This requirement eliminated most districts with fewer than 2500 students.

Table 2-1 presents the characteristics of the 17 sample sites. Data on district size, poverty and percent minority were drawn from the 1980 census remapped to school district boundaries (STF3F). Three school districts had an enrollment exceeding 50,000 students (among the largest); eight had enrollments between 10,000 and 50,000 (large districts); five had between 2500 and 9,999 (medium districts); and only one had fewer than 2500 students (small districts). Seven of the districts can be classified as very high poverty (25 percent or higher); seven as high poverty (12 to 24.9 percent); and three as low and moderate poverty (less than 12 percent) districts. The racial/ethnic composition of the sample sites ranges from 2 to 79 percent minority.

Generalizing from the Case Study Sample

Because this study uses a purposive sample drawn to reflect those factors that explain variations in subdistrict resource allocation rules and patterns, the districts chosen for case study are not representative in size, poverty or racial/ethnic composition of school districts nationally that participate in

Table 2-1

Characteristics of Sample Sites

Site No.	Percent Poverty, 1980	Enrollment, 1980	Percent Minority, 1980
2	37.2%	4,159	54%
15	33.7	14,387	79
11	32.1	6,242	73
16	31.8	65,341	72
17	29.3	333,449	54
13	27.2	19,340	56
7	25.7	14,062	31
8	24.5	9,607	46
14	24.1	33,773	43
6	18.5	2,051	20
12	17.1	34,848	30
4	13.8	25,330	17
5	13.5	51,800	21
10	13.2	11,118	2
3	9.6	6,168	2
1	7.2	8,276	8
9	6.0	33,256	8

Source: U.S. Bureau of the Census data remapped to school district boundaries (STF3F).

the Chapter 1 program. In 1981 only five percent of Title I districts had enrollments exceeding 10,000 students (compared to 65 percent of our sample) and 73 percent had fewer than 2500 students (compared to 5 percent of our sample). More than one-half of Title I districts that year were classified as low and moderate poverty (compared to 20 percent of our sample) and 17 percent were classified as very high poverty (compared to 40 percent of our sample) (Advanced Technology, 1977). Therefore, we must exercise caution in how we generalize from these case study findings. For example, one should not use statistical techniques to apply case study findings to a larger population. One cannot say, based on the data reported here, that "X percent of school districts use a case load formula to allocate instructional staff to Chapter 1 schools," or that "in Y percent of the districts, more staff are allocated to schools with higher concentrations of Chapter 1 students." Similarly, one cannot generalize about differences in resource allocation policies between large and small districts, since only one small district is included in this sample.

Although our sample is not representative of school districts nationally, it is typical of the kinds of districts that educate the majority of students and that must make complex Chapter 1 resource allocation decisions. While only five percent of the nation's school districts have enrollments exceeding 10,000 students, they serve nearly one-half of the nation's elementary and secondary school students. Preliminary analysis of the survey of school districts conducted in 1985-86 for the National Assessment of Chapter 1 shows that only about 40 percent of the districts participating in Chapter 1 use targeting options and these are the larger districts in the country. Therefore, one may be able to generalize from our sample about the behaviors of large school districts, and about the impact of these behaviors on a majority of students.

In addition, our sample was selected to insure diversity on a number of factors that are likely to affect the way that districts make Chapter 1 resource allocation decisions (e.g., district size and poverty, existence of a SCE program) and that are likely to contribute to changes in these processes (changes in Chapter 1 allocations; changes in state context). These selection criteria and the use of an in-depth case study methodology will enable us to determine which factors (e.g., demographics, school district philosophy, state availability of additional funds for remediation) explain variation in the breadth and intensity of services across districts, differences in the allocation of resources across schools and students, and the ways that school districts respond to change, particularly changes in Chapter 1 allocations. These kinds of findings will inform the more general findings generated from the nationally-representative surveys of schools and school districts conducted for the National Assessment of Chapter 1.

Data Collection Procedures

Information on how resource allocation decisions are made, the factors affecting the decisionmaking process and the decision rules used to allocate resources to Chapter 1 schools and students was collected from written documents and from interviews with district (and to a limited extent with school) officials most familiar with the resource allocation process. Sufficiently detailed information was gathered to enable site visitors to specify the decision rules used to allocate resources as well as to classify the district into groups based on whether the rules primarily reflect distribution criteria, administrative criteria, political criteria or a combination of these. Allocation rules were also classified by their goals or purpose (e.g., service to as many schools or students as possible; service concentrated on a relatively small number of schools or students; distribution

of equal resources to Chapter 1 schools; distribution of resources based on educational or economic need of students; etc.) To the extent possible, data on context, process and decision rules were collected for three points in time: 1980-81, 1982-83 and 1985-86.

A major focus of the study is to describe Chapter 1 resource allocation outcomes within and across districts and how these outcomes changed over the last five years. The basic structure of this data collection effort is outlined in Figures 2-2 and 2-3.

For 1985-86, data were gathered on the level and type of resources funded by Chapter 1 and state and local compensatory education programs allocated to each project within a school. The project, the distinct instructional mode for service delivery within a content area, was our central unit of analysis. Projects were defined using four criteria: (1) source of funding (Chapter 1, state/local compensatory education or multi-funded); (2) subject matter (reading, mathematics, bilingual/ESL and other); (3) grade level (pre-kindergarten, kindergarten, elementary, junior high or middle school, and high school); and (4) setting (in-class, limited pull-out, extended pull-out, replacement, add-on or other). Thus, a project within a school was defined as "an elementary reading, limited pull-out project funded by Chapter 1." Figure 2-4 places the project in the perspective of a Chapter 1 program at both the district and school level.

For each project-within-school, we identified the number of students served by grade and the number of teachers and instructional aides assigned to the project. By carefully defining the project, we could specify differences in average resources per child for particular projects, for particular schools or groups of schools. Since projects are the basic building blocks of the

Figure 2-3

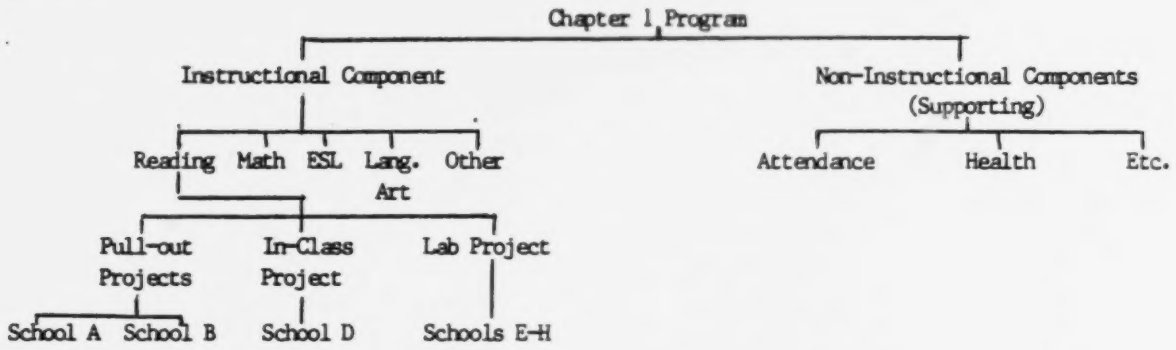
Longitudinal Data (1980/81, 1982/ 83)

	General (all students)	Program (for participants)					
Project Level		Chapter 1	State/local	Bilingual	Special Educ.	Educ. Excellence	Regular Program
School Level		Resources Enrollment	Resources Enrollment	Resources Enrollment	Enrollment	Resources Enrollment	Enrollment
	Student Chars. (poverty, achievement, %LEP, handicapped)	Student Chars. (achievement)	Student Chars. (achievement)				
		School Participation	School Participation	School Participation	School Participation	School Participation	School Participation
Program Level		Program Enrollment Private School: enrollment, resources Funds Budgeted Funds Expended	Program Enrollment Private School: enrollment, resources Funds Budgeted Funds Expended	Program Enrollment	Program Enrollment	Program Enrollment	
District	Student Chars. (poverty, achievement, %LEP, handicapped) Enrollment						Per Pupil Expenditure Pupil/teacher Ratio

Figure 2-4

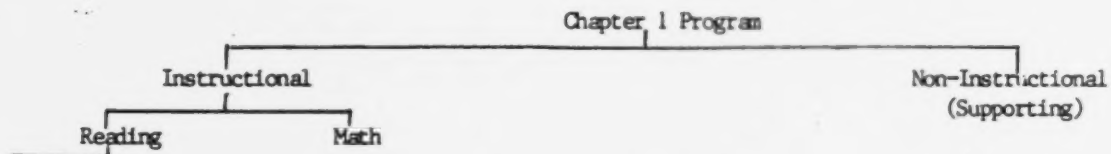
Illustrative Chapter 1 Program and Project Structure

District Level:



A project is a distinct instructional mode for service delivery within a content area.
(The Federal definition is more extensive.)

School Level:



Pull-out project = Grades 2-4, 15 students to 1 teacher
Grades 6-8, 10 students to 1 teacher

In-class = Grades K-1, Instructional aide = 20 students

or

Pull-out project = Grades 2-4, Students below 30th percentile
In-class = Grades 2-4, Students from 31-45 percentile

or

Any possible combination thereof

Chapter 1 program, this approach facilitated our exploring the relationship among decisionmaking, allocation rules and resource allocation outcomes, and the contextual factors influencing each.

At the school level, we collected the number of Chapter 1/SCE/LCE participants by grade and a measure of average achievement for all Chapter 1 students for selected grade levels. At the distict level, we collected data on administrative personnel; expenditures for supplies, materials and equipment; the level and type of supportive services provided by Chapter 1 and state/local compensatory education programs (e.g., student and parent counseling, field trips, food and clothing, health services, testing and evaluation); resources and enrollments for non-public school students provided with Chapter 1 services; average salaries for Chapter 1/state and local compensatory education teachers and aides; and detailed budget data.

To examine changes in resource allocation over time, we collected similar data, although on a less aggregated basis, for the years 1980-81 and 1982-83. For schools that had Chapter 1 and/or state/local compensatory education programs during each of these years, we sought information at the school level on the level and types of resource (teachers and aides), program enrollments by grade level, and the average achievement of students enrolled in the Chapter 1 program. At the district level, we collected program enrollments, funds budgeted and expended, average salaries and the level of services to private school students.

Finally, we wanted to determine (1) how the characteristics of schools providing compensatory education services differ from those that do not provide these services and (2) whether special education and bilingual education/ESL programs resources are allocated differently in Chapter 1/state compensatory education schools than in other schools in the district.

Therefore, we collected information for all three points in time on the characteristics of the entire student body in each school (total enrollment by grade, the degree of educational and economic need and percent of students who are limited-English proficient and/or classified as handicapped); and on resources allocated to, and enrollments in, bilingual/ESL programs in each school. For 1985-86 only, we collected enrollment and resource data on programs for the learning disabled. We also gathered data on total district enrollments, the characteristics of these enrolled students and average per pupil expenditures.

Data Analysis

This study incorporates types of data which lend themselves to the full gamut of analytic investigation, from descriptive through explanatory through causal. However, not all questions are amenable to all types of analysis. Generally speaking, those questions relating to resource allocation patterns--particularly levels of allocation--and the relation of these patterns to schools' and students' characteristics, are based on quantitative data, and lend themselves to statistical analysis. At the other extreme are questions of district decisionmaking process, which are highly qualitative.

We used case study methodology to describe on a district-by-district basis the structure and operation of the Chapter 1 program and, if relevant, state/local compensatory education programs; the nature of the resource allocation rules; the structure of the Chapter 1 decisionmaking process; changes in resource allocation policies over time; and the factors affecting the Chapter 1 resource allocation process. Relational analyses were concerned with the linkages among these factors, allocation rules and allocation outcomes; and with factors driving change.

While data on resource allocation processes were analyzed using qualitative case study methodologies, resource allocation patterns were

analyzed using more quantitative methodologies. Analyses of allocation patterns included simple counts of Chapter 1 participants, projects and schools; distributions of expenditures by budget categories; distribution of compensatory education instructional staff and staff ratios across Chapter 1 schools (means and ranges); and the distribution of bilingual/ESL and LD resources across Chapter 1 and non-Chapter 1 schools. Extensive analyses were conducted relating four measures of resource allocation outcomes—(1) number of Chapter 1 projects, (2) number of Chapter 1 staff, (3) average Chapter 1 staff case load, (4) average per-pupil expenditure—with four measures of school-based need—(1) school poverty, (2) concentration of Chapter 1 participants, (3) average achievement of Chapter 1 students in a school, and (4) average achievement of all children enrolled in a Chapter 1 school. A more detailed description of these analyses is provided in Appendix A.

CHAPTER 3

CATEGORIES OF CHAPTER 1 EXPENDITURES

Introduction

Before allocating Chapter 1 resources to schools and students, districts must decide what portion of their Chapter 1 funds will be retained at the district level for non-instructional purposes and what portion will be allocated to the participating schools. Prior studies have shown that school districts, on average, allocated about three-quarters of their Title I funds to instruction: 74 percent in 1976 and 79 percent in 1981 (Advanced Technology, 1983). In the latter year, 3 percent was allocated to auxiliary services (e.g., parent training and health services), 5 percent to administration, and 7 percent to fixed charges (e.g., personnel benefits). This chapter uses detailed expenditure information collected from the sample school districts to answer the following questions.

(1) What portion of a district's Chapter 1 budget is devoted to instruction, administration and support services and what factors explain variations in these percentages across our sample?

(2) What has been the effect of changes in Chapter 1 allocations on the composition of these districts' budgets?

(3) How much Chapter 1 money do districts carry over from one fiscal year to the next and why?

Definitions of Expenditure Categories

We used the following criteria to collect and classify expenditures across the sample districts.

Administration: Salaries and benefits for Chapter 1 director, Chapter 1 office staff (central office and school-based), supervisors of instruction, program coordinators, program specialists and resource teachers (that portion of their time not working directly with students); supplies and equipment for

administrative activities and other administrative costs (e.g., travel, computer, etc.)

Instruction: Salaries and benefits for instructional staff who work directly with Chapter 1 students.

Textbooks, Materials and Supplies, and Equipment: Those items used for direct instruction.

Support Services: Services that are not administrative or instructional in nature, but are provided to students. These include attendance, health, guidance, transportation, food services, student body activities and school-community coordinators or liaisons.

Other Operating Costs: Community services (including school and district parent and PAC activities); plant operation and maintenance; etc.

Capital Outlay: Expenditures on construction of, or modifications to, public school facilities.

Indirect Costs: Administrative costs incurred by a school district in support of the Chapter 1 program, but not charged directly to the program (e.g., data processing, testing and evaluation).

Because this study focuses on the delivery of direct instructional services to students, we made three changes to the categories used in the NIE (1978) and Advanced Technology (1983) surveys. First, we specifically assigned certain categories of instructional personnel, such as program specialists and resource teachers, to the administrative category. These are staff who work with Chapter 1 teachers and aides, but do not deliver instruction directly to Chapter 1 participants. Since the surveys did not give detailed definitions of the budget categories and the data are self-reported, some districts may have included these type of staff in the instructional category, while others placed them in administration (Advanced Technology, 1983). Second, we included personnel benefits in the categories to which personnel were assigned, while the surveys established a different category for this expenditure—fixed costs. Thus, our figures will show a higher percentage of expenditures in (e.g.) the administrative and instructional categories. Finally, we broke out expenditures for capital

outlay and indirect charges, categories not included in the Advanced Technology survey.

Instructional Expenditures

Our districts, which tended to be larger and poorer than the national samples, spent between 66 and 96 percent of their Chapter 1 budgets on instruction. Half allocated between 80 and 85 percent of their funds to instruction. What factors account for this range? Table 3-1 shows that district size alone does not explain the variation found in the percent of the Chapter 1 budget allocated to instruction, administration and support services in our sites. The following vignettes illustrate that size of the Chapter 1 budget, program design, educational philosophy and administrative structure are also factors that contribute to a district's decision to spend either most of its budget (90 percent or more) or below average amounts (70 percent or less) on instructional activities.

Table 3-1

Relationship between District Size, Chapter 1 Budgets and Percent Allocated to Instruction, Administration and Support Services, 1985-86, for 17 Sample Districts

Dist.	Enroll.	Percent Poverty 1980	Chapter 1 Budget*	Percent for Instruc.	Percent for Admin.	Percent for Support Service
6	2,000	18.5%	$ 200,000	96%	0%	0%
2	3,800	37.2	1,000,000	63	10	3
11	4,000	32.1	900,000	69	10	2
8	5,900	24.5	800,000	84	7	2
1	7,000	7.2	500,000	92	0	0
3	7,000	9.6	400,000	85	9	6
10	10,200	13.2	500,000	86	11	0
7	11,000	25.7	1,800,000	70	7	18
15	14,000	33.7	1,800,000	81	6	6
13	15,900	27.2	2,500,000	83	12	0
12	23,300	17.1	2,900,000	83	6	2
14	24,500	24.1	2,800,000	81	10	0
4	28,000	13.8	2,300,000	74	6	4
9	31,000	6.0	860,000	80	16	0
5	44,500	13.5	3,400,000	66	18	7
16	61,100	31.8	10,000,000	81	7	4
17	196,600	29.3	37,800,000	73	8	8

*Budget figures are rounded to nearest $1,000.

- District 6 is a small, rural school district with an enrollment of 2000 students and a Chapter 1 budget of $200,000. The district spends 96 percent of its Chapter 1 funds on instruction. The program is administered by the assistant superintendent and all administrative costs, including personnel, travel, etc., are financed out of local funds. No indirect costs are charged to Chapter 1. The remainder of the budget is spent on supplies, equipment and parent activities.

- District 2, another small district, spends only 63 percent of its Chapter 1 budget on instruction. It has 3,800 students and a Chapter 1 budget of $1 million. A nearly equal amount of state compensatory education aid allows the district to provide basic skills services to over 40 percent of its students. Seven percent of the Chapter 1 budget is spent on supplies and equipment and ten percent on capital outlay for Chapter 1 preschool units. In the wake of a large increase in its Chapter 1 allocation, the district decided to implement a preschool program, but did not have adequate classrooms to house the program.

- District 1 is a small city with 7,000 students and a Chapter 1 budget of approximately $500,000. Ninety-two percent of this budget is allocated to instruction and 4 percent to supplies, materials and equipment. The district charges about 3 percent of its Chapter 1 budget to indirect costs, a rate approved for that district by the state. The Chapter 1 director is also the district reading coordinator. His salary is paid from local funds.

- District 7, with 11,000 students and a Chapter 1 budget of $1.8 million, spends 70 percent of its budget on instruction. The Chapter 1 program has a large bilingual component; nearly 40 percent of the district's Chapter 1 participants receive Chapter 1-funded bilingual education services. The district has a philosophy of providing support services to this population as well, so nearly 20 percent of the budget is allocated to caseworkers and bilingual liaisons.

- District 5 has an enrollment of 44,500 students and a Chapter 1 budget of $3.4 million. Instructional services account for 66 percent of the Chapter 1 budget. Eighteen percent goes for administration and another 7 percent for support services. Nearly half of the administrative budget funds mathematics specialists and technical assistants who provide technical support to, and monitor, the aide-based Chapter 1 mathematics program.

Administrative Expenditures

Most of our districts spent between six and ten percent of their Chapter 1 budgets on administration, including administrative staff benefits. Data in Table 3-1 show no direct relationship between district size, the size of the Chapter 1 budget or district poverty alone and the percentage of the budget allocated to administration. For example, while the districts that allocated more than ten percent to administration ranged in size from 10,200 to 44,500 students, the two largest districts in our sample (with 61,000 and 200,000 students) spent only seven percent of their budgets on administration. Districts 3 and 12 both spent 8 to 9 percent of their dollars on administration, although the former has a Chapter 1 budget of $400,000 and the latter a budget of $2,900,000. Districts with low or moderate poverty (less than 12 percent) spent between 0 and 16 percent on administration; those with very high poverty (25 percent or more) spent between 6 and 12 percent.

The case study data do show, however, that the size of the Chapter 1 budget affects how districts support Chapter 1 administration. The districts with small Chapter 1 budgets (e.g., $500,000 or less) tended to use other district staff to administer the Chapter 1 program and they were paid out of local funds. In District 1, it was the district reading coordinator; District 3, the director of special education; and District 6, the assistant superintendent. In District 10, the Chapter 1 director had also been the director of curriculum and testing; 60 percent of his salary was funded by Chapter 1. The smaller districts (e.g., those with enrollments of less than 10,000) with larger Chapter 1 budgets generally had separate Chapter 1 directors who were funded in part or totally by the Chapter 1 program.

What do Chapter 1 administrative dollars buy? In our sample, administrative expenditure patterns are different in districts with large and small

Chapter 1 administrative budgets. It appears that both the type and number of staff funded by Chapter 1 change as the size of the Chapter 1 administrative budget increases. Districts with small administrative budgets fund portions of a small Chapter 1 administrative staff. As administrative budgets get larger, districts employ more administrative staff and pay larger portions of their expenses with Chapter 1 dollars.

- District 10 illustrates the pattern found in districts spending about $50,000 on Chapter 1 administration. These funds supported 60 percent of the Chapter 1 director, 60 percent of a secretary and 40 percent of a supervisor.

- District 7 is a larger district with an administrative budget of $130,000. This district uses Chapter 1 dollars to fund the entire salaries of the Chapter 1 director, a reading supervisor and clerk; 50 percent of the reading program director; and 40 percent of the bilingual education director and a coordinator.

- District 5, with an administrative budget of $600,000, funds ten program specialists, the Chapter 1 director and assistant director, the director of evaluation, the coordinators of the parent and pre-school programs and 8.5 nonprofessional administrative staff.

- Our largest district, District 17, spends nearly six million dollars on administration (one-half of which is covered by indirect costs). These funds are used for 120 FTE professional and 40 FTE non-professional staff, who include 5.8 FTE program directors, 66.5 FTE resource teachers and program coordinators, four staff who coordinate and train the parent aides, and 43 Chapter 1 "central office" staff (e.g., data processing, evaluation, procurement, management, etc.). Seven of the clerical and 14.5 of the professional staff served the private school program.

In districts that assign a relatively large proportion of their budgets--12 percent or more--to the administrative category, nearly half of the staff classified as administrative provide services to Chapter 1 instructional personnel.

- The situation in District 5 was referenced above. The Chapter 1 mathematics program uses instructional aides who reinforce math concepts introduced by the classroom teacher. All classroom teachers with Chapter 1 math students must complete in-service training for the program. Six elementary mathematics teachers work out of the central office to provide assistance to classroom teachers and implement and monitor the program. Three technical assistants monitor and assist

the Chapter 1 mathematics aides. In addition, two reading specialists provide support to the Chapter 1 reading teachers.

- o District 9 recently implemented a school-based program design in its Chapter 1 program. At the same time, it doubled the size of its administrative staff to accommodate the more decentralized structure. In 1980, only one person administered the Chapter 1 program. In 1985-86, two half-time professionals were allocated in addition to the full-time administrator to coordinate services across schools, assist parents, and manage assessment/evaluation data.

- o In District 13, the administrative staff included 3 teachers who provide inservice training to Chapter 1 teachers, as well as two administrators, two secretaries and a portion of the salaries of the evaluation staff.

The existence of state compensatory education programs, and state regulations concerning the use of these funds, may also affect the size and composition of a district's administrative budget. Two of our districts are in a state that has unified the administration and delivery of federal and state compensatory education services. Both administrative and instructional staff in Chapter 1 schools are multi-funded. The districts are therefore able to hire more staff to administer their compensatory education programs than would be possible using Chapter 1 funds alone. For example, in District 11, Chapter 1 funds support about 50 percent of the salaries of three program administrators (including the Chapter 1 director), a basic skills coordinator, and a basic skills supervisor. The remainder of their salaries are paid through the SCE program. Another state in our study does not allow the expenditure of SCE funds on administration. Our two sample districts in this state both used local funds to pay SCE administrative costs.

Support Staff Expenditures

Our districts did not spend large portions of their Chapter 1 budgets on support services, and, as will be discussed later, several districts cut back or eliminated support services in response to budget constraints. Eleven of our 17 districts spent between 2 and 18 percent of their Chapter 1 funds on support services, with most in the 3 to 6 percent range. In most of these

districts, Chapter 1 funds were used for school-community liaisons, caseworkers, and/or counselors. Three districts funded nurses.

There does not appear to be any relationship between the level of support services and district poverty, district size or level of Chapter 1 funding. It appears in our sample districts that funding for support services is tied instead to program design decisions. As discussed above, District 7, which has a large Chapter 1 bilingual/ESL program, considers caseworkers an integral component of this program. Districts 5 and 17 have a strong commitment to parent participation and community involvement in the Chapter 1 program, and use program funds to support school-community liaisons. District 3 provides home liaisons and other support personnel for its Chapter 1 kindergarten program.

Impact of Budget Changes on the Composition of Chapter 1 Expenditures

The preceding discussion focused on the allocation of expenditures during the 1985-86 school year. In the last five years, demographic changes, the use of the 1980 Census poverty data in the Chapter 1 allocation formula and a high rate of inflation affected our districts' Chapter 1 allocations. When allocations are adjusted for inflation,[1] four of our districts had lower Chapter 1 allocations in 1985-86 than in 1980-81, nine had higher allocations, and four showed little or no change. To what extent did reductions or increases in funding affect the proportion of Chapter 1 budgets allocated to instruction or to administration?

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[1]Allocations for 1982-83 and 1985-86 were adjusted to 1980-81 dollars using the CPI-Wages deflator. Using 1980-81 as a base year, the deflator was 1.109 for 1982-83 and was estimated to be 1.233 for 1985-86.

There has been speculation over the years that in times of budget cuts districts will act to protect their Chapter 1 administrative budgets at the expense of the instructional program. They will maintain the level of administrative spending and decrease instructional and other costs accordingly. If this is true, then the percent of a district's Chapter 1 budget allocated to administration will increase when its allocations are cut and the percent allocated to instruction will fall.

Table 3-2 examines the relationship between changes in a district's Chapter 1 allocation and the composition of its Chapter 1 budget at two points in time: 1980-81 to 1982-83 and 1982-83 to 1985-86. Districts are ranked first by the percentage change in Chapter 1 allocations between 1980-81 and 1982-83. The second column shows the change in the proportion of the budget allocated to instruction and the third column shows the change in the proportion of the budget allocated to administration. For example, Chapter 1 allocations in District 8 dropped 36 percent between 1980-81 and 1982-83. The percentage of their budget allocated to instruction increased by one percentage point (from 84 to 85 percent), as did the percentage allocated to administration (from 7 to 8 percent). Column 4 shows the level and direction of allocation changes between 1982-83 and 1985-86, while Columns 5 and 6 show changes in the proportion of each district's budget going to instruction and administration, respectively.

The picture in this table is one of relative stability. Increases and decreases in allocations generally had little impact on the allocation of resources across budget categories. Between 1980-81 and 1982-83, a period when most districts had their allocations cut, ten of our 16 sample districts with data made only marginal changes (+3 to -3) in the percentage of Chapter 1 budgets allocated to instruction and eleven made only minor adjustments to their administrative allocations. Similarly, although most districts

Table 3-2

Relationship of Changes in Chapter 1 Allocations and Changes in the Proportion of the Chapter 1 Budget Allocated to Instruction and Administration

Dist.	% Change in Alloc, 1981-83*	Change in % Instr.	Change in % Admin.	% Change in Alloc, 1983-86*	Change in % Instr.	Change in % Admin.
8	- 36%	+ 1	+ 1	+ 52%	- 2	+ 3
12	- 28	+ 2	- 1	- 1	+ 2	- 1
14	- 25	0	+ 1	+ 31	+ 1	+ 1
10	- 22	- 1	+ 2	+ 6	- 2	- 1
9	- 21	-11	+ 8	+ 24	- 2	+ 1
4	- 20	+ 3	- 5	+ 27	-12	- 1
3	- 19	0	0	+105	-15	+ 9
7	- 19	+10	+ 2	+110	- 5	- 4
5	- 16	- 1	+ 3	+ 19	+ 5	- 5
16	- 16	+13	- 5	+ 32	0	+ 4
13	- 14	- 6	0	+ 5	+ 3	0
1	- 11	0	0	- 38	+ 1	0
17	- 10**	+ 2**	- 2**	+ 33	+ 1	0
11	- 7	+11	- 6	+ 63	- 6	- 4
2	+ 21	-38	+14	+ 51	+16	-12
6	+ 63	+ 4	0	+ 50	0	0
15	M***	M***	M***	+ 20	- 8	+ 2

* Allocation changes are expressed in constant, FY 1981 dollars.

** Change between 1981-82 and 1982-83.

*** Missing data.

increased Chapter 1 spending between 1982-83 and 1985-86, ten of the districts did not change their relative budget allocations for instruction and eleven did not change their allocation for administration. One can conclude that in these districts the administrative and instructional components of the Chapter 1 budget shared the consequences of budget cuts and budget increases equally.

No relationship emerges between the size or direction of allocation changes and changes in the percent of expenditures allocated to instruction or administration in the other districts during either period. For example, District 16, with a 16 percent cut in its allocation between 1980-81 and 1982-83, increased the percentage of funds allocated to instruction by 13 percentage points; District 5, faced with a similar reduction, decreased its allocation to instruction by 1 percentage point. Similarly, District 16 decreased its administrative allocation by 5 percentage points, while District 5 increased its allocation by 3 points.

In the second time period, District 3's allocation increased 100 percent. The percentage of its budget allocated to instruction dropped 15 percentage points, while that allocated to administration increased 9 points. District 7 had a similar budget change, but dropped its instructional spending by only 5 percentage points and decreased, rather than increased, the proportion devoted to administration. Districts 5 and 15 both had 20 percent increases in their allocations between 1982-83 and 1985-86. The former district allocated more to instruction (5 percentage points), while the latter district allocated less to this function (8 percentage points).

It appears from these data that fluctuations in budget allocations across categories are the exception, rather than the rule. It also appears that one must look beyond the data displayed in Table 3-2 in order to interpret district behavior.

- In District 2, the proportion of Chapter 1 funds allocated to instruction has wavered back and forth over the years. Increases in Chapter 1 allocations have enabled the district to meet its instructional needs and to use funds periodically for large equipment purchases and capital outlay. In years with significant non-instructional expenditure needs (e.g., equipment in 1982-83 and capital outlay in 1984-85), the instructional portion (but not amount) of the budget falls. When fewer dollars are allocated to these functions (e.g., 1985-86), the instructional portion of the budget rises.

- In District 3, the percent of the Chapter 1 budget allocated to instruction fell 15 percentage points between 1982-83 and 1985-86, in spite of a 100 percent increase in allocations. Through 1982-83, 100 percent of the budget was allocated to direct instruction. Some of the new funds were used to purchase equipment, provide support services and fund part of the Chapter 1 director's assistant's salary, reducing the portion of the budget allocated to instruction. The large increase in allocations meant that the district could raise the number of dollars allocated to instruction by $125,000, or 75 percent, while reducing the percentage of the budget allocated to this function.

- In District 7, the portion of the budget allocated to instruction increased when allocations were cut and fell when allocations grew. Between 1980-81 and 1982-83, the instructional portion of the budget increased from 65 to 75 percent because the percentage devoted to support services and other activities shrank by 8 percentage points. When allocations increased after 1982-83, the district increased the share of the budget devoted to support services by 5 percentage points, driving the instructional share down by an equivalent amount. In spite of this shift, the amount of money spent on instruction nearly doubled during this period.

The Allocation of Carryover Funds

A related resource allocation decision concerns the amount of allocated funds a district chooses to carry over to the next fiscal year. The General Education Provisions Act (GEPA) allows states and local school districts to carry unspent Chapter 1 funds from one fiscal year over into the next fiscal year (Sec.412 (b)). The regulations implementing GEPA do not impose a percentage limitation on the amount of carryover for either states or LEAs.

Last year, the press raised concerns that states and districts were carrying over excessive amounts of Chapter 1 funds and thus denying Chapter 1 services to thousands of eligible students (Duboco & Dewar, 1985). This section of the report examines the level of carryover in our sample districts

and the factors that account for the size of their carryover funds in 1985-86 and over time.

Level of Carryover, 1980-1985

Table 3-3 shows the relative size of carryover funds in our sample districts in 1985-86 and in 1982-83. Column 2 of the table lists the amount of 1984-85 Chapter 1 funds each district carried over to its 1985-86 Chapter 1 budget, and Column 3 shows these carryover funds as a percent of 1985-86 Chapter 1 allocations. Column 4 shows 1981-82 carryover as a percent of 1982-83 Chapter 1 allocations. In 1985-86, carryover funds represented less than 15 percent of that year's Chapter 1 allocations in 11 of the 17 districts.[2] In five districts, carryover was between 20 and 30 percent of the allocation, and in one district it exceeded 50 percent. The level of carryover in our sample is considerably lower than three years earlier. In 1982-83, carry-over exceeded 15 percent of allocations in 11 of the 17 districts and exceeded 30 percent in three places.

Factors Explaining District Carryover

Administrators in most of the districts in our study stated that it was necessary to carry over some funds on an annual basis in order to meet financial exigencies and to maintain stability in their programs in the face of fluctuating allocations. The size of a district's carryover, and changes in the relative size of the carryover over time, appear to be affected by three factors: (1) state guidelines and regulations; (2) changes in Chapter 1 allocations; and (3) changes in state compensatory education funding.

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[2]Duboco and Dewar (1985) reported incorrectly that the U. S. Department of Education requires states and school districts to spend at least 85 percent of their allocations annually. Since this series of articles simulated discussion in Washington, DC on the subject of excessive carryover, however, and since the articles left the impression that districts are supposed to limit their carryover to 15 percent of allocations, we used the 15 percent figure as one basis for categorizing our sample districts.

Table 3-3

Allocation of Carryover Funds, 1985-86 and 1982-83

District	Chapter 1 Allocation, 1985-86 (in thous.)	Amount of Carryover, 1985-86 (in thous.)	1985-86 Carryover as a % of 1985-86 Allocation	1982-83 Carryover as a % of 1982-83 Allocation
10	$ 519.9	$ 12.2	2.3 %	3.0%
1	504.2	20.0	4.0	23.9
15	1,779.8	77.5	4.4	14.3
3	335.1	16.7	5.0	25.9
14	2,653.5	145.4	5.5	37.6
9	827.6	50.2	6.0	19.7
12	2,896.7	210.5	7.3	3.7
4	2,288.9	176.0	7.7	18.6
8	706.0	74.0	10.5	37.2
5	3,265.6	390.0	11.9	18.1
7	1,774.3	225.8	12.7	2.4
13	2,487.4	485.4	19.5	29.5
6	208.1	45.3	21.8	3.8
2	817.6	220.0	26.9	9.3
11	922.8	254.5	27.6	15.6
17	46,535.4	13,885.1	29.8	37.1
16	6,267.0	3,661.0	58.4	17.5

State guidelines and regulations. Some states have begun to restrict the amount of Chapter 1 funds a district can carry over from one year to the next. One state in our sample has imposed a ten percent limit on carryover. The two districts in this state (Districts 8 and 14) reduced their carryover from over 30 percent in 1982-83 to ten percent or less in 1985-86. Another state has told districts that excessive carryover funds would be reallocated to m other districts. These policies have raised concerns among some Chapter 1 directors, however. The Chapter 1 administrator in District 8, for example, felt that the state limit on carryover will reduce his district's ability to maintain services in the event future allocations are reduced. (His district had a 36 percent cut in allocations in the early 1980s.)

Changes in Chapter 1 allocations. Some districts have used carryover funds to respond to changes in allocations, either cushioning the effects of allocation cuts or phasing in new or larger programs in response to large increases in funding. The high level of carryover applied to 1982-83 budgets may be explained by the large number of districts that had their allocations cut between 1980-81 and 1982-83.

District 1 is an example of a district that consciously used carryover funds to maintain stability in its Chapter 1 program during a period of fiscal retrenchment. Allocations in District 1 were cut by more than 30 percent between 1982-83 and 1985-86 after the 1980 Census was incorporated into the allocation formula. The Chapter 1 director built up a carryover fund in anticipation of these reductions. Carryover increased from $21,000 in 1980-81 (3 percent of its allocation that year) to $175,000 (24 percent of its allocation) two years later. This cushion enabled him to maintain the Chapter 1 program with only minor cuts through 1984-85 when the carryover money ran out. Expenditures were cut 30 percent in 1985-86 and future cuts in the

program will parallel continuing reductions in the district's allocation. The district's carryover now stands at 4 percent.

Districts with large increases in allocations have also used carryover funds to maintain stability while phasing in new services. For example, District 2 received a 100 percent increase in its allocation due to use of 1980 Census data. Carryover in District 2 increased from 7 percent in 1982-83 to nearly 60 percent in 1984-85. This percentage dropped as the district expanded its program; carryover declined to 27 percent in 1985-86. District 17 also benefited from the shift in Census data, though to a lesser extent. Its administrators noted that the district received a larger increase in its allocation than expected, and since it had assumed level funding in developing its five year plan, put more money than normal into carryover. Funds are also held in carryover in that district when it is waiting to implement a costly Chapter 1 program component.

Changes in SCE funding. Districts that receive sizeable amounts of new money through state compensatory education programs may be affected by the size and timing of those funds. The large carryover in District 16 in 1985-86 resulted from an amendment to the 1984-85 budget late in the spring of that year. Due to a large increase in state compensatory education funds, the district decided retroactively to change the funding of compensatory services in grades 7-12 from Chapter 1 to SCE, thus freeing the previously obligated Chapter 1 funds for use in 1985-86. The funds were then used to support an intensive Chapter 1 elementary program.

Summary

Our districts allocated between 66 and 96 percent of their Chapter 1 budgets to direct instruction, with half spending between 80 to 85 percent of their funds in this area. Most of the districts spent between 6 and 10 percent of their budgets on administration and 3 to 6 percent on support

services. The size of the Chapter 1 budget, program design, educational philosophy and administrative structure are all factors that contribute to a district's decision to allocate all or only part of its budget to instruction. The size of the Chapter 1 budget (rather than district size) affects how districts support Chapter 1 administration, and the size of the administrative budget explains differences in the number and type of administrative staff supported by Chapter 1 in the various districts. Funding for support services is tied most closely to program design decisions.

Although most of our districts experienced cuts in Chapter 1 allocations in the early 1980s and funding increases in subsequent years, changes in allocations generally had little impact on the allocation of resources across budget categories. More than half of our sample districts made only marginal changes in the percent of resources allocated to instructional and administrative activities between 1980-81 and 1985-86. In the remaining districts, we found no relationship between the size or direction of the allocation change and the change in the percent of expenditures allocated to these two budget categories.

Districts used carryover funds to maintain stability in their Chapter 1 programs in times of both budget increases and decreases. In 1985-86, however, carryover funds represented less than 15 percent of the district's allocation in two-thirds of our districts. The existence of state regulations and guidelines, changes in Chapter 1 allocations and district responses to substantial increases in state compensatory education funding are all factors that appear to explain the level of carryover found in our sample.

CHAPTER 4

BREADTH AND INTENSITY OF CHAPTER 1 SERVICES

Introduction

A second major resource allocation decision involves determining what level of services should be provided to what number of Chapter 1 schools and students. Local school districts must decide how many of the potentially eligible Chapter 1 schools and students they wish to serve (breadth of service) and the intensity of services to be provided to the participants. Intensity of service is a measure of how much service students receive and how concentrated those services are. Since districts have a fixed amount of Chapter 1 funds to allocate, they often face tradeoffs between breadth and intensity of services. For example, some districts choose to "concentrate resources" by providing intense compensatory education services to a limited number of eligible schools and/or students. Other districts choose to "spread resources" across their Chapter 1 population by providing more limited services to a relatively larger proportion of their students.

In this chapter, we examine the breadth and intensity of Chapter 1 services in our sample districts, the mechanisms districts use to achieve a desired level of breadth and intensity of services, and the factors that explain variations across these districts. We focus on the conditions under which districts make breadth/intensity tradeoffs and the forces that lead to changes in the breadth and/or intensity of service in a district.

Breadth and Intensity of Chapter 1 Services in Sample Districts

Breadth and intensity of services can be measured in a number of different ways. Breadth can be defined in terms of the number of schools,

grade spans and and/or students served by the Chapter 1 program. The ideal measure of breadth of service would be the number of Chapter 1 students served as a percentage of those potentially eligible for services. Since districts have, and use, a number of options in defining eligible Chapter 1 schools and students, we have no common measure of potentially eligible students across districts. Therefore, we have chosen average district poverty, as defined by each district, as a a proxy for the percentage of students eligible for Chapter 1 services. Our measure of the relative breadth of services across our sample of districts is the percentage of Chapter 1 participants in a district divided by its poverty rate.

Intensity of program can be measured by staffing mix (ratio of teachers to aides), range of subject matter, case loads, and instructional ratios. Our measure of program intensity is the average case load for the Chapter 1 staff. It is calculated as the number of Chapter 1 participants (duplicated count) in a school divided by the number of Chapter 1 instructional staff in that same school. In a multi-funded program, we counted students who were served and staff who were funded by both Chapter 1 and state and/or local compensatory education funds. For Chapter 1 replacement projects--that is, projects that replaced local instruction--we included only those staff funded by Chapter 1. Staff are counted on a full-time equivalent (FTE) basis, and 2.5 FTE aides are considered the equivalent of one FTE teacher.

This measure of intensity has several advantages. First, it emphasizes the intensity of instructional services provided to participating students in a school. It does not include administrative or support service personnel. Second, this measure is essentially a composite of the size, frequency of instruction, and duration per day of each instructional group. For example, a teacher who sees eight groups of five students for 30 minutes a day, five days a week, is spending 20 hours a week instructing a total of 40 students.

Another teacher who sees four groups of ten students for one hour a day, five days a week, has the same case load--40 students--for the same teaching time, 20 hours a week. It is beyond the scope of this study to ascertain whether students who receive one hour of service daily in groups of 10 receive a more or less intense service than students who receive 30 minutes of service daily in a group half that size. Therefore, we assume that staff with similar case loads are providing services of roughly equal intensity. By giving an instructional aide a weight of 0.4 FTE teachers, we are also assuming that the intensity of service provided by an aide is less than that provided by a specially-trained teacher. (This assumption reflects allocation practices in several of our sample districts. For example, one district gives schools the option of receiving one Chapter 1 teacher for every 60 students or one aide for every 25 students. In other districts, a school is allocated one teacher for every X Chapter 1 students and one aide for an additional 0.4 X students.)

Third, by using a duplicated count of Chapter 1 participants, our measure focuses attention on the allocation of resources to units of need. Most districts in our sample allocate resources by duplicated counts; that is, separately for each subject area. A student who receives services in both math and reading will be counted as two students, one who needs reading and one who needs math, because he or she will be seen twice by the same teacher, or once by each of two instructors.

Finally, this measure of intensity maximizes comparability of data across our sites. There is relative consensus across districts on who constitutes a teacher and an instructional aide and on how to count the number of students they serve.

Table 4-1 presents our breadth and intensity measures for the 17 sample sites. Districts are ranked by the relative breadth of service; high ratios imply that districts serve a relatively large proportion of their potentially eligible students; a lower ratio implies that resources are

Table 4-1

Breadth and Intensity of Chapter 1 Services, 1985-86

District	Percent of Students in Poverty*	Percent of Enrolled Students Served by Chapter 1	Percent Served/ Percent in Poverty	Average Case load
11	31	25**	0.81**	51:1**
17	40	29	0.75	100:1
6	23	16	0.70	46:1
2	49	34**	0.69**	35:1**
12	22	10**	0.45**	67:1**
9	12***	5***	0.43	52:1
14	44	17	0.39	86:1
16	49	21**	0.38**	38:1**
15	60	22	0.37	71:1
5	26	9	0.35	80:1
10	24	8	0.34	47:1
1	24	8	0.34	43:1
8	64***	19***	0.30	38:1
13	46	14**	0.30**	46:1**
7	45	11	0.24	28:1
4	47***	10***	0.21	50:1
3	21	4	0.19	44:1

* As reported by districts in their Chapter 1 applications.

** Multi-funded programs. Includes students and staff funded by SCE/LCE as well as Chapter 1.

*** Elementary grade span only.

concentrated on relatively fewer students. Using natural break points in this distribution, four districts can be characterized as "spreading services" across their Chapter 1 populations (0.69 to 0.81) and thirteen as "concentrating resources" (0.19 to 0.45).

The relative intensity of services also varies widely across our districts. Districts with high case loads (67:1 or higher) are viewed as having lower intensity services than districts with low case loads (52:1 or smaller). Five of the sites fall into the first category, twelve into the latter.

We hypothesized that a district's decision to concentrate or spread resources would be influenced by its relative level of need. That is, a district with a large concentration of students needing compensatory education services would be more likely to pursue a policy that would enable it to serve as many students as possible ("spreading resources") than a district with a lower concentration of such students. In order to spread resources, the poorer districts would also have to provide a less intense level of service than less needy districts.

We tested this hypothesis by examining the relationship between district poverty (our measure of the level of potential educational need) and the relative breadth and intensity of services in our sample districts. We found that the poor districts in our sample are just as likely to choose a policy of concentrating services and/or a policy of providing an intensive program as are the relatively wealthier ones. Figure 4-1 shows that two of the four districts that "spread resources" are high poverty districts; two are relatively low poverty communities. Similarly, the 13 districts that concentrate resources are split evenly between the high and low poverty categories. The same pattern emerges when districts are grouped by poverty and intensity of service. An equal number of high poverty and low poverty

Figure 4-1

Sample Districts Classified by Poverty and Breadth of Service and Poverty and Intensity of Service

	Breadth of Service	
Poverty	High (.69-.81)	Low (.19-.45)
High (40-64%)	2	7
Low (12-31%)	2	6

	Intensity of Service	
Poverty	High (67-100)	Low (28-52)
High (40-64%)	6	3
Low (12-31%)	6	2

districts chose to provide high intensity programs (6 and 6) and an equal number of high and low poverty districts chose to provide low intensity programs (3 and 2).

To examine the relationship between the breadth and intensity of services in each district, we grouped districts into the following four categories:

(1) high breadth/low intensity: serve a relatively large proportion of potentially eligible students, and have relatively high Chapter 1 case loads;

(2) low breadth/high intensity: serve relatively fewer students and have a lower average case load;

(3) high breadth/high intensity: provide services to a large proportion of their eligible population, and have relatively low case loads; and

(4) low breadth/low intensity: concentrate resources on a limited number of potentially eligible students and have a high average case load.

Table 4-2 shows the results of this classification. Only one of our districts, District 17, falls into the first category. Nine districts, or more than one half of our sample, fall into the second category. Three districts are in the third classification and four in the fourth category.

Table 4-2

Sample Districts Classified by Breadth/Intensity

District	Percent Served/ Percent in Poverty	Average Case Load
High Breadth/ Low Intensity		
District 17	0.75	100:1
Low Breadth/ High Intensity		
District 9	0.43*	52:1
District 16	0.38**	38:1**
District 10	0.34	47:1
District 1	0.34	43:1
District 8	0.30*	38:1
District 13	0.30**	46:1**
District 7	0.24	28:1
District 4	0.21*	50:1
District 3	0.19	44:1
High Breadth/ High Intensity		
District 11	0.81**	51:1**
District 6	0.70	46:1
District 2	0.69**	35:1**
Low Breadth/ Low Intensity		
District 12	0.45**	67:1**
District 14	0.39	86:1
District 15	0.37	71:1
District 5	0.35	80:1

* Elementary grade span only.
** Multi-funded programs. Includes students and staff funded by SCE/LCE as well as Chapter 1.

It appears from Table 4-2 that the districts in our sample have different goals and objectives about the appropriate breadth and intensity of Chapter 1 services to be provided. The following vignettes illustrate the different combinations of targeting and program design mechanisms that districts use to achieve their desired goals and the reasons that underlie these choices. Examples are given for the four different categories: (1) high breadth/low intensity; (2) low breadth/high intensity; (3) high breadth/high intensity; and (4) low breadth/low intensity of services. In addition, we examine districts where we found variation in the breadth and intensity of services within districts across Chapter 1 projects.

High Breadth/Low Intensity Districts

District 17 was the only district in our sample that fell into the high breadth/low intensity category. It is a poor, large urban school district that uses targeting options to maximize the number of students served. Chapter 1 services are located in grades K-12 in all schools above the district average poverty level and the district uses the grandfathering clause to the fullest extent possible. All elementary school students (K-6) who score below the 50th percentile in either reading or math are eligible for services, and it is district policy to serve all eligible students. At the secondary level (7-12), student eligibility is lower: the 25th percentile. As a result of these decisions, nearly 30 percent of the public school population receives Chapter 1 services. In order to serve this many students, the district relies heavily on aides (the teacher-aide ratio is 0.5:1) and the average staff case load is 100:1. This spreading of resources is viewed as a "political necessity."

Low Breadth/High Intensity Districts

Nine districts (more than one-half of our sample) chose policies that provided more intense Chapter 1 services to a more limited number of schools

and students than the other sample sites. The approaches they used to concentrate resources, and the factors that influenced their policies, differed across the districts. The following three scenarios are representative of what we found.

District 1's philosophy is to provide a high quality Chaper 1 instructional program to students in all grade spans (K-12). Quality is defined as a specially-trained teacher providing direct instruction to no more than 4 or 5 students at a time in the elementary program and 8 to 10 students in the secondary program. In order to achieve this goal in the face of declining allocations, the district serves only the highest poverty schools, and students below the 35th percentile. The district uses only Chapter 1 teachers (no aides) and the average case load is 43:1. As a result, Chapter 1 services were limited to eight percent of public school students in 1985-86.

District 8 limits its services by grade span, rather than relative school poverty. The district believes that concentrated services, closely coordinated with the regular program, and implemented in the earliest grades, are essential to success. The district also strongly believes only certified teachers are capable of providing high quality instructional services. Therefore, it serves only elementary schools, but uses the 25 percent poverty option to serve all of them. In order to maintain an intense level of service (small group instruction by special teachers for 45 to 90 minutes a day), the district only serves students up to the 35th percentile in grades 1-5 (and 1-4 in two of the eight elementary schools). There are no Chapter 1 aides and the average case load is 38:1. Although nearly two-thirds of the elementary school population receive free or reduced-price lunches, the Chapter 1 program serves only 19 percent of elementary students.

District 4 concentrates Chapter 1 resources students in the poorest elementary schools (pre-K to 6). The district uses the 25 percent option to identify eligible elementary schools, but only serves schools above the district average. Students are eligible for the program if they score below the 50th percentile, but it serves only one-half of the eligible students. The teacher-aide ratio is 0.6:1 and the average case load is 50:1. Chapter 1 resources are concentrated in this manner to meet state requirements concerning the allocation of state compensatory education funds. The state has two allocation requirements for the SCE program: (1) districts must put at least 50 percent of the grade 2-6 state compensatory education funds in Chapter 1 eligible (but not necessarily served) schools; and (2) districts may not give duplicate services from Chapter 1 and SCE. By using the 25 percent option, District 4 qualifies enough schools that SCE and Chapter 1 funds serve completely different sets of schools. District 3, located in the same state, meets the state SCE requirements by using Chapter 1 funds to provide reading services in grades 1-8 and SCE funds to provide mathematics services.

High Breadth/High Intensity Districts

Two types of districts fall into this category: (1) districts which use sizeable amounts of state compensatory education aid in combination with Chapter 1 funds to provide a large number of students with the same, intense compensatory education program; and (2) small, low poverty districts where Chapter 1 funds appear to be adequate to meet the needs of the most educationally disadvantaged students. Districts 2 and 11 are examples of the first type of district. SCE funds are roughly equal to the Chapter 1 allocation, and Chapter 1 services are delivered through a basic skills program which is a mixture of federal and state resources. Compensatory education services to students who attend Chapter 1 schools are multi-funded.

These children are served without regard to funding source and their instructional staff are paid by Chapter 1 alone, SCE alone, or by a percentage of each. More importantly, the districts' compensatory education programs are designed to use both sources of funds to provide unified compensatory education programs. State compensatory education money may not be used for pre-kindergarten services and the districts must serve all students scoring below a state-established cutoff.

District 2 uses the no-wide variance school selection option to serve all its elementary schools with Chapter 1 as well as SCE funds. The only high school in the district uses SCE funds alone to provide basic skills services. This multi-funding enables the district to provide Chapter 1 services to 34 percent of its students. Student selection ranges from the 21st percentile in 11th and 12th grades to the 45th percentile in grades 1-5. The teacher-aide ratio is high--0.8:1--and the average case load is only 35:1. District 11 is about the same size, but slightly wealthier. All schools above the district average are served by Chapter 1; student eligibility is set at the 45th to 50th NCE. Thus, twenty-five percent of the district's students receive multi-funded basic skills services (and another 5 percent SCE-funded services). The average case load is slightly higher than in District 2, 51:1. The teacher-aide ratio is 1.2:1.

District 6 also provides intense Chapter 1 services to a large proportion of its eligible students, but without the benefit of state compensatory education funding. The district is small and very rural. A large increase in Chapter 1 funding has enabled the district to allocate one Chapter 1 teacher to each grade span in each school of above average poverty. Because of the small size of the schools and the district's moderate poverty, this allocation is sufficient to serve all eligible children, generally those scoring below the 25th percentile.

Districts With Limited Breadth And Intensity of Services

Using our measures of breadth and intensity, four districts appear to provide a low intensity program to a relatively small percentage of students. What are the characteristics of these kinds of districts?

District 15 is an example of a district with high needs but limited Chapter 1 resources. It is a large district with a high poverty rate and a large minority student population. The district's belief in an early intervention strategy for educationally-deprived children leads it to spread its resources as far as possible across its elementary school population. The district uses the 25 percent option for school selection to serve 14 of its 15 elementary schools. Services are not intense. Most are provided by aides (the teacher-aide ratio is 0.2:1) and the average case load is 71:1. Although the student eligibility criterion is the 35th percentile, the Chapter 1 program serves 38 percent of the elementary school population. The participants account for only 22 percent of the K-12 enrollment, however, which, when coupled with its high poverty level, gives the district a breadth measure of only 0.37. The state provides SCE funds which support additional staff in Chapter 1 schools. The two programs are administered separately, however, and SCE-funded personnel in Chapter 1 schools are primarily used for voluntary before and after school tutorials mandated by the state's education reform law. We could not tell from the data the extent to which SCE funds expanded the breadth and/or intensity of compensatory education services in the district.

District 5 is more typical of the districts in our sample that concentrate resources and provide high intensity services. Its Chapter 1 program serves only elementary schools above the district average poverty level and those students who score below the 31st percentile on either the

reading or mathematics examinations. Reading services are provided by a special reading teacher, occasionally assisted by an aide, four to five days a week. The average case load in this program is 56:1. The mathematics program is staffed by aides, however, and students receive services twice a week. The low intensity of this program (average case load of 172:1) reduces the average case load for the entire Chapter 1 program to 80:1. In addition, only two-thirds of the Chapter 1 budget is allocated to direct instructional services. About 16 percent of the budget goes for instructional and non-instructional support services.

District 12 serves all elementary and middle schools above the district average poverty and the number of students served is adjusted annually to achieve a target per pupil expenditure figure. The program uses a mix of aide-based projects, teacher-based pullout projects, and teacher-intensive replacement programs. The overall teacher-aide ratio is 0.5:1, however, which results in an average case load of 67:1.

Variation Across Projects Within Districts

The scenarios presented above illustrate the way that districts use targeting and program design decisions to establish the scope and intensity of their Chapter 1 programs. The intensity measures discussed above are averages, however, across different components of a district's Chapter 1 program. In many of these districts, the type and level of services provided to Chapter 1 students varies across Chapter 1 projects. We generally observed the following differences across Chapter 1 projects in our sample: smaller case loads for pre-kindergarten, bilingual/ESL and/or replacement projects; the use of Chapter 1 aides (rather than Chapter 1-funded teachers) in kindergarten projects; higher case loads in secondary than in elementary programs; and comparable staffing patterns in reading and mathematics projects.

Table 4-3 presents average case loads by project for the 15 districts with project level data. The six districts that staff pre-kindergarten programs with teachers have average case loads of 11 to 25. The higher case loads in District 15 and 16 and in the kindergarten projects generally reflect the use of Chapter 1 aides, rather than teachers. In 8 of the 12 districts with both reading and math services, the average case load in math is comparable to, or lower than, that for reading. (It is interesting to note as well that the range in average case load for reading across our sample districts is relatively narrow, 38:1 to 58:1 in 10 of the 15 sample districts with data.) The four districts with Chapter 1 bilingual/ESL projects have Chapter 1 bilingual/ESL case loads that are one-third to one-half the case loads in Chapter 1 reading. The range in average case loads for replacement projects across the sample districts is caused by two factors: (1) variation in the number of hours a day students are served (e.g., all day in Districts 12, 13 and 15 but only one hour to one-half day in District 17); and (2) the funding mix in support of the replacement project (e.g., federal/local in Districts 12, 13 and 17 and federal/state/local in District 16). Only federally-funded staff were used to calculate case loads for replacement projects. When project staff supported by state and local funds are included, the average case loads drop to 13:1 in Districts 12, 13 and 16 and 31:1 in District 17.

These project-level differences reflect conscious program design and resource allocation decisions. For example, in District 13, the goal is to serve all students below the 40th percentile in all eligible schools. However, about one-half of the Chapter 1 resources are allocated to two high-intensity programs--pre-kindergarten and an all-day replacement model--that serve fewer than 25 percent of the Chapter 1 participants. Case

Table 4-3

Average Staff Case loads by Chapter 1 Projects, for Sample Districts

	Average Staff Case Load								
District	Pre-K	Kinder-garten	Reading	Math	Biling/ ESL	Replace-ment*	Elemen-tary**	Middle**	Secondary**
1	24:1	—	48:1	41:1	—	—	43:1	40:1	70:1
2	11:1	29:1	48:1	42:1	—	—	34:1	63:1	—
3	—	42:1	44:1	—	—	—	44:1	48:1	—
4	19:1	53:1	49:1	53:1	—	—	51:1	—	—
5	25:1	—	56:1	172:1	—	—	114:1	—	—
6	not available								
7	—	—	41:1	—	16:1	—	28:1	—	—
8	—	—	38:1***	38:1***	—	—	38:1	—	—
9	—	—	93:1	83:1	—	—	83:1	47:1	—
10	—	—	47:1	—	—	—	47:1	—	—
11	—	51:1	51:1	50:1	—	—	50:1	—	62:1
12	25:1	—	77:1	116:1	31:1	24:1	73:1	98:1	—
13	25:1	—	58:1	56:1	—	26:1	50:1	63:1	—
14	not available								
15	67:1	84:1	78:1	121:1	—	—	78:1	—	—
16	50:1	—	32:1	74:1	13:1	39:1	39:1	—	—
17	—	150:1	125:1	92:1	61:1	62:1	94:1	108:1	127:1

* Replacement projects provide Chapter 1 services in a self-contained setting in place of local instruction. The case loads reported here do not include the local contribution required by this program approach.

** Includes all subject areas (e.g., reading, math, bilingual/ESL, other), but excludes pre-kindergarten and kindergarten projects.

*** Estimated

loads in these programs average 25:1 and 26:1 respectively (13:1 when the required local contribution is included). The average case load for the remaining Chapter 1 students in reading and mathematics pull-out programs is 58:1.

In District 5, where reading services are provided by a special reading teacher and aides staff the Chapter 1 mathematics program, the mathematics program was implemented several years after the reading program, and at the time, available funds would not support full-time teachers.

District 17, the largest district in our sample, also has the largest array of Chapter 1 projects. As discussed above, district policy is to serve all elementary school students below the 50th percentile who attend Chapter 1 schools. All eligible students receive reading services, but they may be provided by in-class reading aides; in reading labs with a teacher and aide; or in a replacement setting where a Chapter 1 teacher and aide are paired with a classroom teacher to reduce class-size by one-half. Some students in grades 1-4 participate instead in an in-class program that uses reduced class size and an aide and parent-scholar to serve small groups of students for half-day programs. The lowest achieving students in grades 4 to 6 receive a high-intensity basic skills instructional program in an ungraded setting, using a replacement model. The type of services available to a student is determined by the mix of projects allocated to the school by the central office. Again, projects carry different case loads, ranging from 61:1 in the teacher-based ESL program to 125:1 in the reading program.

Summary

In our sample, school districts had different goals and objectives concerning the appropriate scope, intensity and design of Chapter 1 instructional programs. Relative to each other, more than half of our sample

districts designed programs providing intensive services to a limited number of participants; one chose to provide less intense services to a higher percentage of the eligible school and students; three provided intense services to a relatively large number of students; and four others served small percentages of students with limited intensity. These variations are explained by a number of factors, including differences in educational philosophy, demographics, and the availability of state compensatory education funds.

A philosophical belief in the efficacy of early intervention led many of our districts to limit services to elementary schools only; or to provide services in more subjects, for longer periods, in smaller groups to their youngest participants; and/or to serve relatively higher percentages of students in lower grades. In a few districts, belief that only teachers, and not aides, can provide high quality services tended to limit the number of program participants to fewer than would have been served had a greater number of lower-salaried aides been hired instead. A few districts favored intensive replacement projects over limited pull-out programs because of a strong belief in close coordination of regular and compensatory services or because they believed this was a more effective way to serve students with limited proficiency in English.

Demographics occasionally affected breadth/intensity policies. In a few districts, the presence of a large language minority student population required bilingual compensatory education services, inducing districts to provide intensive services to all eligible students. In two cases, state dissatisfaction with providing bilingual services through a limited pullout design led the districts to implement a more intensive replacement program.

The availability of sizeable state compensatory education funds enabled two districts to provide intense compensatory education services to a large

number of students, while in another state these funds supported a very intensive replacement program for 80 percent of the Chapter 1 participants. State regulations concerning the use of SCE funds in one state affected the way that two districts allocated Chapter 1 funds, with one district concentrating Chapter 1 resources in its poorest schools and another district limiting Chapter 1 services to one subject area.

Finally, in many of our sample districts, the type and level of services provided to Chapter 1 students varied across Chapter 1 projects. Generally, more intense services were found in pre-kindergarten and bilingual/ESL projects than in reading and math; in replacement projects than in pull-out or in-class settings; and in elementary than in secondary school programs. We found similar staffing patterns in reading and mathematics in the majority of our sample districts.

Changes in the Breadth and Intensity of Services Over Time

We examined changes in the breadth and intensity of services between 1980-81 and 1985-86 as well. Since district poverty data were not available for many of our districts for the earlier time periods, we chose to use change in the percent of students served by Chapter 1 as a measure of change in breadth of Chapter 1 service over time. Districts that served a smaller proportion of students in 1985-86 are viewed as having reduced the breadth of services. Districts that increased the percent of students served are considered to have expanded the breadth of their program. Changes in average case loads were used to measure change in intensity of service. If districts have a lower case load in 1985-86 than in earlier years, they increased the intensity of their services. If the case load became larger, they decreased the intensity of the program.

Patterns of Change

Table 4-4 shows changes in these measures for our districts between 1980-81 and 1985-86. (Data on the percent of students participating in Chapter 1 and on Chapter 1 case load were available for the 1980-81 school year in 11 of the 17 sample districts and for 16 districts in 1982-83.) The breadth of Chapter 1 services decreased in seven districts (a change of -2 or more), increased in six districts (a change of +2 or more) and remained about the same in four districts (a change of -1 to +1). The intensity of Chapter 1 services grew in 10 of the 17 sample districts (a change of +6 or more), fell in one district (a change of -6 or more), and remained relatively stable (a change of -5 to +5) in the other six.

Did these districts make tradeoffs between breadth and intensity over time? In other words, did districts that decreased the breadth of their programs take this action in order to maintain or increase the intensity of these programs? Conversely, did districts increase the breadth of services at the expense of service intensity? A closer examination of the data in Table 4-4 shows six different types of responses.

- Three districts (8, 11 and 12) served relatively fewer students with more intense services.
- Four districts (1, 14, 5 and 10) served fewer students with the same intensity of services as in previous years.
- Four districts (13, 16, 2, and 6) increased both the breadth and intensity of their Chapter 1 programs.
- Two districts (7 and 17) increased the breadth of their programs and maintained the intensity of services.
- Three districts (9, 3 and 4) served the same proportion of students, but increased the intensity of the program.
- One district (15) maintained the breadth of the program, but reduced the intensity of services.

Table 4-4

Changes in Breadth and Intensity of Chapter 1 Services in Sample Districts, 1980-81 to 1985-86

Dist.	Percent Served 80-81	Percent Served 85-86	Change in Percent Served	Average Case Load 80-81	Average Case Load 85-86	Change in Average Case Load
8	18%	12%	- 6	50:1	38:1	- 12
1	14	8	- 6	38:1	43:1	+ 5
11	30*	25	- 5**	99:1*	51:1	- 48**
12	15*	11	- 4**	85:1*	67:1	- 18**
14	19	17	- 2	89:1	86:1	- 3
5	11	9	- 2	75:1	80:1	+ 5
10	10	8	- 2	51:1	47:1	- 4
15	22*	22	0**	63:1*	71:1	+ 8**
9	4	4	0	67:1	52:1	- 12
3	4*	4	0**	77:1*	44:1	- 33**
4	7	8	+ 1	73:1	50:1	- 23
13	12*	14	+ 2**	62:1*	46:1	- 16**
7	9*	11	+ 2**	31:1*	28:1	- 3**
16	19	21	+ 2	49:1	38:1	- 11
2	30	34	+ 4	70:1	35:1	- 35
17	25***	29	+ 4****	102:1***	100:1	- 2****
6	5	16	+11	61:1	46:1	- 15

* 1982-83 data.

** Change between 1982-83 and 1985-86.

*** 1981-82 data.

**** Change between 1981-82 and 1985-86.

Response to Budgetary Changes

A major question examined in this study was: How did school districts respond to changes in Chapter 1 allocations between 1980-81 and 1985-86? We have seen that the districts included in this study changed the breadth and intensity of their Chapter 1 programs in different ways during this period. To what extent were these decisions driven by, or affected by, budgetary changes?

Tables 4-5 and 4-6 explore the relationship between changes in Chapter 1 allocations and changes in breadth and intensity of services for two different points in the five year period. Table 4-5 looks at these changes betweeen 1980-81 and 1982-83, while Table 4-6 focuses on change between 1982-83 and 1985-86. In both tables, districts are sequenced by the relative size of the allocation change for that time period. Table 4-5 includes the 10 sample districts with complete data for both 1980-81 and 1982-83 and Table 4-6 includes 16 districts with complete data for the second time period.

Before examining these relationships in detail, it must be noted that changes in Chapter 1 allocations do not automatically trigger corresponding changes in the breadth and intensity of Chapter 1 services. Three moderating forces may come into play. First, districts can use carryover funds to cushion cuts in allocations. We saw in Chapter 3, for example, that many of the districts in our sample, responding to earlier cuts in their allocations, carried sizeable amounts of money over into the 1982-83 school year. This action enabled them to maintain, or only slightly modify, their level of Chapter 1 spending. A stable Chapter 1 budget (as opposed to Chapter 1 allocation) helps districts to maintain the relative breadth and intensity of their services.

Table 4-5

Relationship between Changes in Chapter 1 Allocations and Changes in Breadth and Intensity of Services, 1980-81 to 1982-83

Dist.	Change in Alloc.*	Percent Served		Average Staff Case Load	
		80-81	82-83	80-81	82-83
8	- 36%	18%	10%	50:1	41:1
10	- 22	10	10	51:1	53:1
9	- 21	4	4	67:1	56:1
4	- 20	7	6	73:1	100:1
5	- 16	11	9	75:1	77:1
16	- 16	19	15	49:1	50:1
1	- 11	14	15	38:1	39:1
17	- 10**	25**	25	102:1**	96:1
2	+ 21	30	33	70:1	90:1
6	+ 63	5	4	61:1	45:1

* Allocation changes are expressed in constant, FY 1981 dollars, using the CPI-W deflator.

** Change betweeen 1981-82 and 1982-83.

Second, districts can change the compositon of their Chapter 1 budgets so that the brunt of the cuts falls on non-instructional activities. Increasing the percent of the budget allocated to instruction, at a time when allocations are shrinking, will also cushion the impact of cuts on the level of instructional services.

Finally, the costs of operating the Chapter 1 program may outstrip changes in allocations, even when these changes are measured in real dollars. We found, for example, that increases in the average salary of a Chapter 1 teacher were greater than inflation in several of our districts because of the growing longevity of the teaching staff. Thus, a district with a stable allocation may be able to buy fewer Chapter 1 services; a district with a growing allocation may be running just to stay in place.

Changes between 1980-81 and 1982-83. Table 4-5 shows that eight of the ten districts had their allocations cut 10 to 36 percent between 1980-81 and 1982-83. Five of these eight districts maintained the breadth of their programs. Of these five districts that maintained program breadth in light of budget cuts, only one (District 4) decreased program intensity. Two districts (10 and 1) maintained and two districts (9 and 17) increased program intensity. The three districts that reduced program breadth either maintained (Districts 5 and 16) or increased (District 8) program intensity.

Two districts received increased allocations during this period. District 2 increased the breadth, but reduced the intensity, of its program; District 6 maintained program breadth, but increased program intensity.

The following vignettes show that changes in the relative breadth and intensity of districts' Chapter 1 programs reflected the interaction of a number of factors, including the relative size of the allocation change, the level and type of services provided prior to the reduction, the use of carry-

over funds, district educational philosophy and goals and circumstances unique to each district.

District 8 had a 36 percent reduction in its Chapter 1 allocation between 1980-81 and 1982-83. The district eliminated its secondary school program during this period, but the primary impetus was not budgetary. For several years the secondary program evaluation results had been poor, strengthening district officials' growing belief that success requires early intervention. In addition, several Chapter 1 secondary teachers retired after the 1980-81 school year, presenting the opportunity to eliminate the program without laying off staff. Concentration of the remaining Chapter 1 resources at the elementary level led to a reduction in the number and percent of students served by Chapter 1 but an increase in the intensity of the program.

Districts 1, 4 and 5 had moderate reductions in their Chapter 1 allocations and responded to these changes in different ways. District 1 maintained both the breadth and intensity of its program by dropping summer school, the community liaison and tutors for the alternative school and by using carryover funds to cushion the impact of the cuts. District 4 also maintained the breadth of its program in the face of a 20 percent cut in its Chapter 1 allocation, but reduced program intensity. While the district made only small reductions in the number of students served, it cut the number of aides in half, from 60 to 30. As a result of these actions, the average staff case load rose from 73:1 to 100:1.

District 5, on the other hand, chose to reduce the breadth of services while maintaining program intensity. The district had been serving all students below the 31st percentile in elementary schools above and just below the average poverty level. In order to maintain as much direct instructional service as possible, the program eliminated Chapter 1-funded summer school;

reduced expenditures on equipment, travel and the parent program; reduced the number of resource staff; and eliminated a half-hour of the aides' hour planning time each day. In order to maintain the intensity of services, the district served fewer pre-school children and four fewer elementary schools.

District 6 saw its Chapter 1 allocation increase more than 60 percent between 1980-81 and 1982-83. The district chose generally to maintain the breadth of the program and increase program intensity, but for somewhat unusual reasons. Although five schools were eligible to receive Chapter 1 services, a low number of eligible students and lack of principal interest in the program had always limited the program to two buildings, those with the highest poverty. This lack of interest continued in the 1982-83 school year, so the increased allocation was used to expand services in one of these two participating schools, from grades 1-5 to grades 1-12; to add language arts as a content area in the program; and to raise student eligibility from the 25th to the 30th percentile. In spite of these changes, the number of students served fell, contributing to a more intense program for those who participated.

Changes between 1982-83 and 1985-86. Thirteen of our seventeen sample districts had increased Chapter 1 allocations in real dollars between 1982-83 and 1985-86, ranging from 19 percent to 110 percent change. As shown in Table 4-6, the twelve districts for which we have complete data had varied responses to these allocation increases. Six districts increased the breadth of service, five maintained program breadth, and one decreased the percent of students served. Of the six districts that increased breadth of service, four (Districts 17, 6, 8 and 7) maintained and two (Districts 16 and 4) increased

Table 4-6

Relationship between Changes in Chapter 1 Allocations and Changes in Breadth and Intensity of Services, 1982-83 to 1985-86

Dist.	Change in Alloc.*	Percent Served		Average Case Load	
		82-83	85-86	82-83	85-86
1	- 38%	15%	8%	39:1	43:1
12	- 1	15	11	85:1	67:1
13	+ 5	12	14	62:1	46:1
10	+ 6	10	8	53:1	47:1
5	+ 19	9	9	77:1	80:1
15	+ 20	22	22	63:1	71:1
9	+ 24	4	4	56:1	52:1
4	+ 27	6	8	100:1	50:1
16	+ 32	15	21	50:1	38:1
17	+ 33	25	29	96:1	100:1
6	+ 50	4	16	45:1	46:1
2	+ 51	33	34	90:1	35:1
8	+ 52	10	12	41:1	38:1
11	+ 63	30	25	99:1	55:1
3	+105	4	4	77:1	44:1
7	+110	9	11	31:1	28:1

* Allocation changes are expressed in constant, FY 1981 dollars, using the CPI-W deflator.

program intensity. Two of the five districts that maintained program breadth maintained program intensity as well (Districts 5 and 9), two (Districts 2 and 3) increased program intensity and one (District 15) decreased intensity of services. The one district that decreased program breadth increased program intensity (District 11).

Three districts had relatively stable allocations during the period. Two decreased program breadth and increased program intensity (Districts 12 and 10), while the third (District 13) increased both breadth of services and program intensity. District 1, which had a 38 percent cut in allocations, chose to maintain program intensity while reducing program breadth considerably.

What factors explain these responses? Once again, level of funding changes interacted with district philosophy, level of existing services, and district characteristics. In order to view this interaction, we grouped districts into five categories based on the relative size of the allocation change between 1982-83 and 1985-86, and described the experiences of the districts in each group. The five categories are:

- o continued allocation cuts;
- o relatively stable funding;
- o small increases in allocations;
- o moderate increases in allocations; and
- o large increases in allocations

District 1 was the only district in our sample to continue to have its allocation cut during this period. As noted above, the district cut peripheral services during the early 1980s and used carryover funds in response to the first budget reductions. As the district faced larger and more permanent cuts due to the census changes, it made a series of resource

allocation decisions that concentrated resources into the neediest schools (as measured by poverty) and on the neediest students (as measured by achievement). Its decisions maintained the intensity of the instructional program, while focusing resources increasingly on the lower grades.

District 1 first reduced aides from 6-1/2 hours to 6 hours a day and reduced student eligibility from the 40th to the 35th percentile. When these changes did not save enough money, the district eliminated aides altogether, which meant reducing the number of students served in the elementary schools by nearly 30 percent. The district then decided to eliminate math services in the junior and senior high school and finally to drop the two lowest qualifying elementary schools and to reduce services in the next three lowest-ranked schools.

Districts 12, 13 and 10 had relatively stable funding over the period, after inflation is taken into account. The changes in program breadth and intensity in Districts 12 and 13 reflect changes in Chapter 1 program design, which resulted in a reallocation of resources within the program. In District 12, services were eliminated at the high schools, decreasing the breadth of the program, while a resource-intensive replacement program was implemented in several of the elementary schools. Two intensive programs--pre-kindergarten and replacement programs--now absorb nearly one-half of the Chapter 1 budget in District 13.

In District 10, a decision to limit services to grades 1-5 in 1984-85 led to a decrease in breadth of service and corresponding increase in program intensity. Increases in average teacher salaries that exceeded both inflation and increases in the district's allocation after 1982-83 forced the district to cut back on the breadth of service.

Three districts had what could be called small increases in Chapter 1 allocations between 1982-83 and 1985-86. Increases ranged from 19 to 24 percent, or 7 to 8 percent a year after adjusting for inflation. These three, Districts 5, 15 and 9, showed stability in both program breadth and program intensity. Districts 5 and 9 had suffered cuts in their allocations of about the same magnitude in the early 1980s. (Data were missing for District 15 for this time period.) The subsequent increases in allocations were generally just enough to offset increases in teachers salaries and to replace some lost services. District 5, for example, restored services to two schools and to its pre-school and parent programs, but participation rates did not return to the 1980-81 level. In District 9, increased salary costs and a fear of future cuts in allocations has led the district to replace many Chapter 1 teachers with teaching assistants and aides.

Seven of the districts in our sample received moderate increases in their allocations in this period. These increases, which averaged 9 to 21 percent a year (adjusted for inflation), were large enough to allow districts to change the level of Chapter 1 services. Five of the seven districts increased the breadth of services. Two of these five (Districts 4 and 16) increased intensity as well, while the other three (Districts 6, 8 and 17) maintained program intensity. The remaining two districts (2 and 11) increased program intensity, but maintained or decreased breadth of services.

Districts 4 and 16 increased both program breadth and program intensity. As discussed earlier, when faced with budget cuts in the early 1980s, District 4 cut the number of Chapter 1 aides in half. When allocations began to rise again, the district restored the number of aides and increased the number of teachers as well. Although District 4 also served more schools and more students, the increase in staff was large enough to reduce the average staff

case load from 100:1 to 50:1. In District 16, changes were driven by two factors unrelated to increases in the district's Chapter 1 allocation: the district's desire for a concentrated "total approach" to bilingual education through all-day replacement projects for all eligible students and a large increase in state compensatory education aid which provided the funds to implement this program design. For 80 percent of the students, the district replaced a traditional pull-out program in reading, math, language arts and ESL with all-day replacement programs that have an average student-teacher ratio of 15:1. The principal motivation for this new program design was the high percentage of LEP students and the state's criticism of the district's bilingual education services.

Districts 8 and 6 chose to maintain their intense Chapter 1 services and serve more students. District 8 chose this approach since the strong district philosophy favoring concentrated services in elementary schools had been fully implemented, even in earlier lean years. New dollars were used to hire additional teachers who taught eligible, but previously unserved, students. In District 6, large allocation increases and a growth in the number of eligible students overcame the reluctance of several principals to participate in Chapter 1. Since staff case loads were already below the district's guidelines, services were extended to all eligible schools in the district.

Districts 2 and 11 maintained or decreased program breadth while increasing program intensity. In both cases, the districts had been serving large percentages of their students: 30 percent in District 11 and 33 percent in District 2. In District 11, the number of eligible students fell as performance on the state's minimum competency test improved. In District 2, the implementation of a pre-school program kept the number of eligible students stable as the number of eligible students in the upper grades

declined. Therefore, both districts chose to use increased Chapter 1 allocations (and increased state aid) to increase the intensity of services to their Chapter 1 students. District 2 more than doubled the number of Chapter 1 staff, driving the average case load down from 90:1 to 35:1. District 11 also hired more staff in spite of a 20 percent decline in number of Chapter 1 participants. As a result, average case loads dropped in that district from 99:1 to 55:1.

Finally, two districts in our sample had increases in Chapter 1 allocations that exceeded 100 percent between 1982-83 and 1985-86. District 3, a relatively wealthy and high-achieving district, chose to maintain program breadth and to increase program intensity by doubling the size of the staff serving these students. District 7, on the other hand, a district with a high level of need and a low case load, chose to expand the scope of its program.

Summary

During the period 1980-81 through 1985-86, school districts in our sample had the opportunity to change the relative breadth and intensity of their Chapter 1 programs, especially in response to fluctuating allocations. Ten of our seventeen districts had their Chapter 1 allocations cut at some time during this period. Although the level of reductions ranged from 10 to 38 percent in real dollars, all but one district acted to maintain the integrity and intensity of their instructional programs. Districts with relatively small reductions (less than 25 percent) dropped support services, cut the time of aides, and marginally reduced the number of schools or the number of students served in the program. Districts with larger reductions (30 to 38 percent) took further actions to maintain the intensity of services to the elementary grades (including pre-kindergarten and kindergarten) by reducing or

eliminating services to secondary schools and by reducing the number of elementary school and/or elementary schools served. Only one district reduced the intensity of services in order to maintain the number of students served, and this was accomplished by reducing the number of aides and increasing the case load of Chapter 1 teachers.

When faced with stable or small increases in their Chapter 1 allocations (less than 25 percent in real dollars), districts generally maintained the breadth and intensity of their programs. Changes in either of these two factors tended to result from changes in program design, such as the implementation of resource-intensive replacement and/or pre-kindergarten programs. Districts with moderate or large allocation increases (25 percent or more) reacted in different ways, depending on the relative intensity or breadth of their program at the time of the increase. Districts with intense programs tended to use new funds to increase program breadth. Districts that already served a large percentage of their students used increased allocations to increase program intensity.

CHAPTER 5

ALLOCATION OF RESOURCES TO CHAPTER 1 SCHOOLS

Introduction

A third resource allocation decision facing most school districts that participate in the Chapter 1 program is how to allocate Chapter 1 resources to participating schools and students. In the early years of Title I, Program Guide No. 44 (1968) required that programs be conducted in a limited number of eligible attendance areas and provide relatively higher concentrations of services in areas having the highest incidences of poverty. Program Guide No. 44 was subsequently cancelled and there was no written policy governing proportional distribution of Title I resources until 1978. In 1975-76, only 45 percent of the school districts "attempted to distribute Title I resources to match the number of students receiving Title I services in particular schools" and many districts "use[d] extremely vague rules for allocating resources" (NIE, 1978). Districts using an "ad hoc" process based their school level allocations on a variety of considerations: previous allocation levels, program priorities, space and principal/central office relationships (Goettel, Kaplan & Orland, 1977).

In 1978, Congress enacted Section 124(e) of Title I, which required that Title I funds be allocated to participating schools "on the basis of the number and needs of children to be served." By 1981, about 75 percent of the districts surveyed in the District Practices Study reported allocating Title I funds to schools according to "the number of students selected for Title I services." Eleven percent of the districts considered school poverty levels and 19 percent considered "more informal judgment of needs" in making allocation decisions (Gaffney and Schember, 1982).

The "numbers and needs" provision was eliminated under Chapter 1, however, leaving districts with broad discretion in how they distribute resources to Chapter 1 schools and students. This chapter focuses on the decision rules that our sample of districts used in 1985-86 to allocate resources to their schools and students and the resource allocation patterns that result from these policies. It addresses three questions:

1. What criteria and decision rules did districts use to allocate Chapter 1 resources to participating schools and students?

2. What was the actual distribution of Chapter 1 resources across schools within each district and how was this distribution related to characteristics of the schools and students served?

3. What factors, including the nature of the district's allocation rules, explain variations in Chapter 1 resources across schools?

Rules for Allocating Chapter 1 Resources to Schools and Students

Over the twenty year history of Chapter 1/Title I, school districts have incorporated a mix of distributive, administrative and political criteria in their rules for allocating Chapter 1 resources to their schools and students. Distributive standards focus on the distribution of resources across service recipients--schools and students--and embody different equity criteria. These criteria can include equal resources to all participating schools with equal grade spans; equal resources for each participating student (e.g., equal per pupil expenditures); resources allocated in proportion to educatonal need; and resources allocated in proportion to the economic deprivation of the school. Administrative criteria relate resource allocation decisions to facilities, the distribution of resources in preceding years, etc., while political criteria are responses to the specific demands of individuals or groups.

Distributive Criteria for Allocating Chapter 1 Resources

All of the districts in our sample used distributive criteria as the basis for allocating Chapter 1 resources to their schools. These criteria took the

form of "allocation rules" that encompassed decisions about the "unit" of Chapter 1 resources to be allocated (e.g., instructional staff, Chapter 1 projects, Chapter 1 dollars, supplies and equipment, etc.) and how the units should be allocated (e.g., uniform allocations to each building, average staff case load, school poverty level, etc.). Districts did not have written policies entitled "Chapter 1 allocation rules." The "rules" discussed below arise from the decisions the districts made in allocating resources.

Table 5-1 illustrates the variety of rules that our sample of districts use to allocate Chapter 1 instructional resources to Chapter 1 schools and/or projects. Fifteen of the 17 districts used educational need as a criterion for allocating at least a portion of their Chapter 1 resources; ten used this criterion exclusively. Five districts allocated at least some of their Chapter 1 resources uniformly across participating Chapter 1 schools; only one district used this approach alone. One district used poverty and one district considered school size as well. The following vignettes describe how our districts incorporated these allocation criteria in their resource allocation rules.

Uniform allocation of Chapter 1 resources. District 6, a small rural community with a relatively small Chapter 1 allocation, is an example of a district that uses a uniform allocation rule exclusively. One teacher and one aide are allocated to each participating Chapter 1 school. (The one K-12 school receives two teachers and two aides to serve the two grade spans housed in the school.) No itinerant staff are used because of the geographic separation of schools. The district requires schools to serve all eligible students in all need areas deemed appropriate by school staff for a minimum of 30 minutes each day. School personnel (either or both the principal and Chapter 1 teacher) determine the maximum amounts and types of Chapter 1-funded

Table 5-1

Distributional Criteria Used by Sample School Districts in Chapter 1 Resource Allocation Rules

District	Uniform Allocation of Resources	Educational Need Criteria	School Poverty Criteria	Other Criteria
1		X		
2		X		
3		X		X
4			X	
5		X		
6	X			
7	X	X		
8		X		
9		X		
10		X		
11		X		
12	X	X		
13		X		
14		X		
15	X	X		
16		X		
17	X	X		

services individual students or groups of students receive. Since no teacher had reached his or her maximum service load of 80 students, all eligible students were receiving Chapter 1 resources in light of need.

Allocation based on educational need. Most of the districts in our sample considered the educational need of Chapter 1 schools in their resource allocation decisions. They differed, however, in how they related resources to need and in how they measured need. As we will see later in this chapter, the way in which districts match resources to educational need affects the number of eligible students who are served and/or the intensity of services available to participating students.

- District 1 uses rigid case loads for allocating Chapter 1 teachers to Chapter 1 schools and for selecting Chapter 1 participants. The number of staff allocated to a Chapter 1 school is based on the number of educationally disadvantaged children, measured by performance below the 35th percentile in reading and/or mathematics (duplicated count). No teacher is supposed to serve more than 40 students. A teacher will be split across two schools if necessary to maintain this case load. Schools then select students for services using a "bottom-up" approach until a teacher's roster is filled. Because the number of students in need of services in each school are not necessarily in multiples of 20 or 40, the cutoff score for services varies somewhat from school to school, but most of the students below the 35th percentile are served.

- In District 2 staff are allocated to schools using an informal case load ranging from about 40 to 50 students (duplicated count) per teacher. More staff are assigned to grades K-3, "emphasis" grades in the district. In addition, each teacher's actual case load will vary since schools must serve all eligible students, regardless of the level of resources allocated.

- District 8 also uses a rough case load rule to allocate Chapter 1 teachers to schools, but allocations are made in proportion to the number of students below the 50th percentile in either reading or math (unduplicated count). Although an unduplicated count is used to allocate resources, a duplicated count is used to select participants. Since the district does not have enough resources to serve all students below the 50th percentile (the district's service eligibility criterion), and the district enforces fairly uniform class sizes, the number of Chapter 1 teachers allocated to a school drives the number of students served. A uniform cutoff score is not established across grades or across schools, however. Project participants are selected by giving priority to the lowest scoring students in grades 1-4. If fifth graders can be reached without driving cutoffs too low, then they will be served.

- District 3 uses a less formal measure of need in its allocation of resources. Reading teachers (the only subject matter taught) are allocated in units of at least 0.5 FTE, and range from 0.5 to 2 FTE per school, depending on school "size." Both the number of eligible students (those below the 25th percentile) and overall enrollment contribute to the relative "size" of a school. Since schools must serve all eligible students, and allocations are based only partly on the number of eligible students, teacher case loads will vary across schools.

- District 9 uses a case load method to allocate teachers and aides to Chapter 1 schools based on the educational needs of eligible students. But in this district, principals are notified of their allocated amount and they decide what type of staff will be needed for the Chapter 1 program in their schools. For example, a principal may substitute two instructional aides for one teaching assistant.

- District 12 allocates dollars, rather than staff, to participating Chapter 1 schools, taking educational need into consideration. Every school is told how many total dollars they will have for the next year and the cost of various resources, such as teachers, aides, nurses and annual support for computer upkeep. Schools then specify which items they want. This total dollar amount is the product of a "target" per pupil expenditure and the number of eligible students in each school. This "dollars-per-participant" figure is consistent across grades and across public and non-public schools.

Allocation based on school-level poverty. Only one district in our sample used poverty as the primary criterion for allocating Chapter 1 resources. The basic approach in District 4, developed in the late 1960s, is to allocate Chapter 1 projects based on poverty. The principle was established that the eight poorest schools ("Priority 1's") would receive the maximum mix of projects--all three subject areas plus (in later years) pre-kindergarten, counseling and other support staff. The rest of the Chapter 1 schools ("Priority 2's") would be assured of a reading program. Although the number of Priority 1 schools has been reduced to four, the allocation principle remains. The poorest schools have 6 to 8 projects (the district allocates more than one project per subject area), while the other schools have from 1 to 5 projects each. Since projects come with a consignment of staff, poor schools will receive more Chapter 1 staff.

Multiple Projects and Multiple Allocation Rules. Twelve of our 17 sample districts (generally those with fewer than 10,000 students) used one rule for allocating all instructional resources to Chapter 1 schools. The larger districts in the sample tended to use multiple allocation rules. That is, different rules were applied to different Chapter 1 projects within the district. In some cases, the use of multiple allocation rules reflected the Chapter 1 decision-making structure, where separate program directors (e.g., reading, math, ESOL) were responsible for resource allocation rules as well as Chapter 1 program designs.

Districts using multiple allocation rules have two kinds of decisions to make: (1) how projects should be allocated across Chapter 1 schools and (2) how resources should be allocated to the projects. The interaction of these two decisions drives the level and type of resources ultimately allocated to Chapter 1 schools.

Three of our districts allocate all Chapter 1 projects (with the exception of pre-kindergarten) to all Chapter 1 schools, but use different allocation rules to allocate resources to these projects.

- In District 5, all schools are allocated reading and mathematics projects. All the Chapter 1 projects use a case load approach to allocate resources, but the case loads and staffing mixes differ, reflecting program design differences. In reading, the average case load for a reading teacher is roughly 50 students; for a teacher and 0.5 aide, 60 to 65; and for a teacher and full-time aide, 75 to 80 students. Allocations are related to the number of students eligible to receive reading services. The mathematics program is an aide-based program. Each school is allocated one aide for every 72 students eligible for math services, and fractional case loads are used to accommodate the needs of each school. The same cutoff, the 31st percentile, is used for both subject areas.

- District 7 provides reading and bilingual/ESL services to all participating elementary schools and two of the three participating junior high schools. Reading teachers are allocated using a modified uniform allocation rule. Each school is given one Chapter 1 reading teacher, except the poorest performing elementary school and the high school which receive two teachers each. Allocations to the

bilingual/ESL programs use a rigid case load approach: one teacher and aide per classroom of approximately 20 students.

- District 15 allocates four projects to all its Chapter 1 schools: pre-kindergarten, kindergarten, a pullout reading program and an in-class reading/math/language arts program. Resources for the pullout reading program are allocated uniformly: each school receives one teacher and one aide. Instructional aides, who staff the pre-kindergarten, kindergarten and in-class reading/math/language arts projects, are allocated using a case load of approximately 35 students per aide. Allocations are based on the estimated number of Chapter 1 participants.

The other districts allocate different numbers of projects to Chapter 1 schools as well as different resources to projects. Schools receive a baseline set of services (generally one reading and one mathematics project) and additional projects are allocated based on educational need, school poverty, or other factors. Two examples are presented below.

- District 13 offers four basic Chapter 1 programs: pre-kindergarten, a pull-out reading and mathematics program; all-day replacement; and junior high services. The way that the district allocates resources to the projects determines the overall allocation of resources to Chapter 1 schools. Resources for the pre-kindergarten program (the oldest and most stable component of the district's Chapter 1 program) are put in place first. Each Chapter 1 school (except the smallest) receives one teacher and one aide for this program. Resources are allocated next to the replacement program, which was placed in only four of the 14 Chapter 1 schools. They were self-selected by the principals and are not the lowest achieving schools. (Six schools had no space and four opted out because of the presence of special education self-contained classrooms). These two projects consume approximately one-half of the Chapter 1 instructional resources. The remaining 50 percent of the resources are then allocated to schools based on educational need (unduplicated count) for the basic reading and math pullout program.

- District 17 allocates more than a dozen projects to its elementary and secondary schools. Each program area (early childhood education, reading, mathematics and foreign languages) determines the rules for allocating projects to schools and for allocating staff to projects. Allocation rules differ among program areas and among projects within program areas. For example, all participating elementary schools are allocated in-class reading aides; the number of aides sent to each school is roughly related to the number of students needing services. About three-quarters of the schools (supposedly the ones with the largest number of Chapter 1 eligible students and other measures of need) are allocated reading labs or reading replacement projects as well; each school gets a uniform allocation of one reading teacher and aide for these projects. Mathematics resources are allocated on a

uniform basis: one teacher (and generally an aide) to each elementary school and two teachers and one aide to each senior high school. A slight need measure is used at the junior high school level: the eight neediest schools are allocated two rather than one remedial math teacher. ESOL teachers and aides are allocated based on the needs of the schools.

Allocation Rules Incorporating Administrative and Political Criteria

None of the districts in our sample used administrative and/or political criteria as the principal basis for allocating Chapter 1 instructional resources to participating schools. Rather these criteria acted as constraints on the operation of distributional formulas.

The major administrative criterion affecting resource allocation decisions is incrementalism, the tendency of districts to make only marginal changes in the allocation of projects and/or staff across Chapter 1 schools. For example, in theory District 12 allocates dollars to each school based on the number of eligible Chapter 1 students and a target per pupil expenditure. In reality, the final allocation to a school is driven by its allocation in previous years, the costs of a new program and/or the "administrative judgment" of the Chapter 1 director who will adjust allocations to insure that no school loses more than 10 percent of last year's allocation.

The allocation of Chapter 1 math services to elementary schools in District 17 also builds upon past allocation decisions. Each Chapter 1 elementary school is allocated one elementary mathematics resource teacher and about 80 percent of the schools also receive a mathematics aide. The allocation of aides is based in part on history and more recently on need. In 1976, the district released some reading aides who were retrained as math aides. They stayed in the schools to which they had been assigned. Since then, only a few of the aides have been moved around. As aides were added (the number has grown from 70 to 80), they were assigned to the schools with the largest number of eligible students and to schools with related educational needs, such as language needs.

Another administrative decision that affects resource allocation is the desire not to split Chapter 1 teachers and aides across schools. For example, two of our sample districts serve large geographic areas and the distance between schools precludes one teacher and/or aide serving more than one building. In many other districts in our sample, staff are allocated in increments of 0.5 teachers and aides. This decision leads to a "stepwise" allocation of staff across Chapter 1 schools that could lead to a disparity in the case load of the staff assigned.

Lack of facilities and/or "principal willingness" also affect the number and type of projects housed in a Chapter 1 school and thus the number and type of Chapter 1 resources allocated to that school. In several districts, for example, projects such as pre-kindergarten were allocated to all Chapter 1 schools "that had room for them." Often the smaller schools, or those housing other special programs (particularly special education programs), did not have the necessary spare classroom. A principal in one district mentioned that he would lose his Chapter 1 pre-kindergarten program next year because he needed the classroom for a third section of first graders.

The availability of facilities can also determine the placement of reading or computer labs, pullout programs and replacement programs in Chapter 1 schools. In District 11, for example, a large proportion of basic skills instruction is delivered via computer in prescription labs. While all Chapter 1 schools have computers, only those with sufficient space have prescription labs. Similarly, we found in other districts that available space determined whether schools would house in-class or pullout programs, and in those districts with the option at the elementary level, replacement programs.

The willingness of principals to participate in the Chapter 1 program, or in specific Chapter 1 projects, affected the resource allocation process in

three of the sample districts. In our smallest district, prior to 1985-86, not all eligible schools received Chapter 1 services because the schools had few students eligible for the program and the principals were not interested in obtaining these services for them. As the number of students in need grew, and more funds became available, the principals decided to participate. In two other districts, use of the replacement program was an option and the placement of the program was driven by principal willingness to accept the new design. As will be discussed later, since this project design provides more intense services and uses more resources, these decisions affect overall resource allocation patterns in a district.

Politics did not play a direct role in resource allocation policies in any of our sample districts. In no case did a school get extra Chapter 1 resources because of pressure from a building principal, parents group, or school board member. Requests for additional resources had to be supported by documentation of additional educational need. In fact, the Chapter 1 director of the largest district in our sample noted that the highly bureaucratic resource allocation processes in his district helped shield central office staff from political pressures in the community.

Allocating Non-Instructional Resources

We attempted to collect data on the allocation of supplies, materials and equipment to Chapter 1 schools. Since these items are ordered through central purchasing, the site visitors would have had to sift through binders of purchase orders in each district's central office. Therefore, we asked respondents what rules, if any, they used to allocate supplies, materials and equipment. We found that districts generally allocate dollars for materials and supplies on a per pupil or per teacher basis. Chapter 1 teachers are free to select the items they need, subject to approval of their principals and/or

central offices. Amounts ranged from $100 to $600 per teacher and $5.00 to $10.00 per student. In two districts (located in the same state), additional resources came from the principal and/or an "adopt a school" program, where businesses provide tutorial services and non-academic rewards (i.e., attendance and enrichment experiences, field trips, etc.) to all students in need. Availability of these additional resources varied across Chapter 1 schools within each district, depending upon principal and/or business willingness to supplement the program.

Equipment is generally allocated by the central office in response to written requests from the Chapter 1 schools, or as part of a district-wide plan. It appears that most districts used a uniform allocation rule: X number of computers to support a reading, math or prescription lab. One district used a uniform rule to allocate computers, but put computer labs in the lowest-achieving Chapter 1 schools.

As discussed in Chapter 3, in our sample most of the Chapter 1 funds used for support services provide school-community liaisons. These liaisons are assigned to one or more schools, and the level of service appears uniform across Chapter 1 schools.

Summary

Districts use a variety of rules to allocate Chapter 1 resources to the buildings, including uniform allocations to each building (e.g., one teacher and one aide per school), and student/staff case load (e.g., case load of 40 students per Chapter 1 teacher). Some districts allocate instructional staff directly to buildings and some allocate Chapter 1 projects (which bring with them configurations of staff). Still others allocate resources expressed in one unit (e.g., teachers or dollars), but allow schools to substitute resources of equivalent value (e.g., a greater number of aides).

Most of our sample districts allocate instructional resources to schools in rough proportion to the number of Chapter 1 participants or Chapter 1 eligible students in each school, often taking into consideration the number of needs each student has. A few districts use multiple allocation rules, and none appear to incorporate the degree of individual student need into their Chapter 1 resource allocation policies (e.g., provide more intensive resources to students who score the lowest on achievement tests). Materials and supplies are generally allocated on a per pupil or per teacher basis.

The Distribution of Chapter 1 Resources within Sample Districts

The preceding section described the criteria, or decision rules, that our sample districts used to allocate Chapter 1 resources to participating schools and students. A school district's Chapter 1 allocation rules affects how equitably Chapter 1 students are treated within that district. For example, assume that two Chapter 1 schools in a district enroll 50 and 100 students, respectively, who are eligible to receive Chapter 1 reading services. If the district allocates one Chapter 1 teacher to the first school and two Chapter 1 teachers to the second (an allocation rule that takes educational need into account), the schools should be able to provide comparable services to their students: teacher-based Chapter 1 services with a case load of 50 students per teacher. If the district allocates one teacher to each school (a uniform allocation rule), however, the second school faces a dilemma: serve all eligible students with a less intense service (case load of 100:1) or maintain the intensity of service and leave one-half (50) or its students unserved. In either case, equity of service will not be achieved.

To determine how equitably Chapter 1 resources are actually distributed in our sample districts, we first describe the range of Chapter 1 resources

across participating schools within each of the sample districts. We then relate the distribution of resources to the characteristics of the participating schools to see whether high need schools receive at least as many Chapter 1 resources as less needy schools.

Distribution of Chapter 1 Resources

This section describes how four measures of Chapter 1 resources are distributed across Chapter 1 schools and students in the sample districts.

- o Number of Chapter 1 projects in a school. Projects are distinct instructional modes for service delivery within a content area, such as an elementary reading pull-out project. Projects are differentiated using three criteria: grade level (pre-kindergarten, kindergarten, elementary, middle, high school); subject matter (reading, mathematics, bilingual/ESL, other); and setting (in-class, limited pull-out, extended pull-out, add-on, replacement, other).

- o Number of Chapter 1 staff. The total number of FTE staff funded by Chapter 1 funds (or in a multi-funded program by both Chapter 1 and state and/or local compensatory education funds), where 2.5 FTE aides equal 1.0 FTE teacher. Staff supported by local contributions to replacement projects all not included.

- o Average case load. The number of Chapter 1 participants (duplicated count) in a school divided by the number of Chapter 1 staff as defined above.

- o Per pupil expenditure. Total salaries and benefits paid to Chapter 1 staff divided by the number of Chapter 1 participants (duplicated count).

Table 5-2 presents the range in each of these measures for the seventeen districts.

Projects. Five districts in the sample allocate the same number of projects to all schools. Eight districts have a narrow range—a difference of only one or two projects across Chapter 1 schools. This narrow range can occur for any of three reasons. First, districts may allocate the same number of subject matter projects (e.g., reading and math) to all Chapter schools, but place pre-kindergarten projects in a limited number of schools. Second, districts may allocate a different number of subject areas to schools

Table 5-2

Distribution of Chapter 1 Resources Across Schools Within Sample Districts, 1985-86

District	Number of Projects	Number of Staff	Average Case Load*	Instructional Expenditures per Pupil**
	Range in			
1	1 - 3	1 - 4	34:1-40:1***	$650-$750
2 ****	2 - 3	1.5 - 5	27:1-69:1	480-870
3	none	.66 - 3	44:1-71:1	432-714
4	1 - 7	1 - 6	31:1-88:1	240-1410
5	2 - 3	1 - 10	55:1-110:1	300-600
6	none	none	- - - missing - - - -	
7	none	2.4 - 6.6	19:1-35:1	624-1104
8	none	2 - 5	33:1-40:1	414-606
9	2 - 3	0.3 - 10.5	10:1-95:1	300-2500
10	none	1 - 1.8	36:1-56:1	450-625
11 ****	4 - 5	3.5 - 5.5	44:1-56:1***	600-760***
12 ****	1 - 4	0.5 - 4.5	30:1-123:1	200-940
13 ****	3 - 4	1.4 - 5.4	29:1-58:1	580-1280
14	1 - 3	1.4 - 4.8	46:1-144:1	260-832
15	2 - 4	2.2 - 3.8	44:1-116:1	300-756
16****	1 - 6	6 - 48	16.7-32:1	800-1625
17	1 - 6	1 - 10	35:1-145:1	175-1070

*Sum of teachers and aides, where 2.5 FTE aides equal 1.0 FTE teacher.
**Includes only salaries and benefits for direct instructional personnel.
***Elementary schools only in districts that serve some secondary grade spans.
****Multi-funded program (Chapter 1/ SCE).

with different grade spans. For example, in District 1, all Chapter 1 elementary schools receive both reading and mathematics services, but the junior and senior high schools have only Chapter 1 reading programs. Third, all schools may be allocated the same subject areas, but use a different mix of program designs. District 12 is an example of this situation. Fourteen of the 22 Chapter 1 elementary schools are allocated an aide-based project to provide reading and/or math services. This is the only service in four schools. It co-exists with a high intensity, basic skills program in eight schools and with both a basic skills and teacher-based pullout program in another two schools. This results in a range of 1-3 projects for the reading/math portion of Chapter 1 alone.

Only three of the sample districts have a wide range of projects: from 1 to 7 in District 4 and 1 to 6 in Districts 16 and 17. Projects are the basic allocation unit in District 4 and vary by subject matter (reading, math and communication), setting (pullout, in-class, add-on and laboratory), staff mix (teachers/aides), grade span (pre-kindergarten, kindergarten and elementary), and type of service (instructional, social service and counseling). In District 17, projects are allocated by the Chapter 1 project directors. For example, the reading director allocates five reading projects; the director of elementary mathematics, one project; the director of secondary mathematics, two projects; the director of early childhood education, three projects, and so forth. Therefore, the number of projects that a school receives is the product of a number of different, and often unrelated, decisions.

Number of staff. Sixteen of the seventeen sample districts allocate a range of staff to Chapter 1 schools. (One uses a uniform allocation rule exclusively.) The widest range is found in District 16: 6 to 48; the narrowest in District 10: 1 to 1.8. Three districts (10, 11 and 15) have a difference of

two or less staff across Chapter 1 schools. In two cases, District 10 and 15, this distribution reflects the uniform allocation of teachers, but not aides, to Chapter 1 schools.

Staff case load. Since the relative size of schools and the educational needs of those schools often varies within school districts, a more relevant measure of the distribution of Chapter 1 resources is the average case load of Chapter 1 teachers in each school. This measure relates the number of staff allocated to each school to the number of Chapter 1 participants. If all eligible students in all Chapter 1 schools in a district are being served, a narrow range in case loads across Chapter 1 schools is a sign that resources are being allocated in an equitable manner. That is, each school has sufficient resources to serve all students. Since we do not know the number of eligible, but unserved, students in each school, our measure is only a proxy. The ranges in each district must be interpreted in light of qualitative data on the tendency of schools to serve (or to not serve) all eligible students.

Table 5-2 shows the range in case loads across Chapter 1 schools in each sample district. Only three districts have a narrow range on this measure: Districts 1, 8 and 11. (A narrow range is defined here as less than a 50 percent difference between the highest and lowest case loads.) In the other districts, schools with the highest case loads have case loads that are two to four times as large as the schools with the lowest case loads. For example, the range in District 5 is 55:1 to 110:1; in District 4 is 31:2 to 88:1 and in District 17 is 35:1 to 145:1.

To determine whether these ranges include "outliers," (that is, whether the range was affected by one or two schools that have an unusually high or low case load), we conducted two other types of analysis on the 13 districts with wide ranges. In small districts (12 or fewer schools), we ranked the schools

from low to high to examine the distribution of case loads across all schools in a district. In larger districts, we also ranked schools low to high, divided the ranking into quartiles, and examined the range in case loads in each quartile.

We found that the ranges were not affected by outliers in any of the districts for which we had data. Rather, three distributional patterns emerged. In one district, we found a bi-modal distribution of resources across the schools. District 2 has five elementary schools which are served by Chapter 1. Three of the schools have case loads that range from 27:1 to 35:1. The other two schools have case loads that are twice as high: 68:1 and 69:1.

In two districts, there was a narrow range of case loads across the middle two quartiles (or 50 percent of the schools), but a wide distribution in the schools in the bottom and top quartiles. District 5 exemplifies this pattern. The range in case loads between the bottom of the second quartile and top of the third quartile is only 80:1 to 87:1. The ranges in the bottom and top quartiles are much wider: 55:1 to 79:1 and 88:1 to 110:1.

Finally, ten, or most of the districts, showed a fairly even distribution across the range. That is, there was no clustering of districts at either end of the range or in the middle. The distribution of case loads in District 4 is typical. The ranges in the quartiles were 31:1 to 37:1; 41:1 to 47:1; 48:1 to 59:1 and 60:1 to 88:1.

Per pupil expenditures. The wide range in average case loads across Chapter 1 schools in most of the sample districts translates into disparities in per pupil expenditures as well. Using the criterion of a 50 percent difference in expenditures, we find that four of the sixteen districts with complete data have a narrow expenditure range: Districts 1, 8, 10 and 11. Of the remaining twelve districts, two show a narrow distribution across at least

half of their districts and one has a bi-modal distribution. In nine districts, or more than one half of our sample, variations in per pupil instructional expenditures are consistent across groups of Chapter 1 schools.

Relationship of Resource Allocation Patterns to School Characteristics

The next step in our analysis involved relating the actual distribution of Chapter 1 resources in each district to the economic and educational characteristics of students attending the participating schools. This section describes the relationships we found in the seventeen sample districts. It is followed by a discussion of those factors that appear to explain these relationships.

We related the four outcome measures discussed above with four measures of economic and educational need in Chapter 1 schools:

- o Level of poverty. The percent of the school's student body in poverty, as used by the district to select schools for participation in the Chapter 1 program.
- o Achievement of Chapter 1 participants. The average achievement of Chapter 1 participants in one grade per grade span in each school on a reading and/or mathematics pretest.
- o School-wide achievement level. The average achievement of all students in one grade per grade span (usually a grade where the state required testing) in each Chapter 1 school.
- o Concentration of Chapter 1 students. The number of Chapter 1 participants in a school as a percent of total school enrollment.

We conducted a number of bivariate analyses for each sample district, relating the four resource measures (number of projects, number of staff, average case load and per pupil expenditure) with the particular need characteristics of each school. Each site visitor then described the resulting relationships and related the resource allocation patterns and relationships to each district's allocation objectives and rules. We found that the relationships between resource allocation and the economic and educational characteristics of the participating schools and students could be grouped in the following way.

- o Equal distribution of resources across schools. Schools receive approximately the same level of Chapter 1 resources regardless of their relative economic or educational status.

- o Positive relationship between level of resources and school characteristics; i.e., more resources are allocated to schools with relatively higher levels of poverty or higher levels of educational need.

- o Negative relationship between level of resources and school characteristics; i.e., more resources are allocated to schools with higher achievement levels or with relatively lower levels of poverty.

- o Random distribution of resources. There is no relationship between resource distribution measures and school need measures in spite of a wide range in level of resources allocated.

Before describing our findings, three general caveats need to be made. First, while many of our sample districts stated that they attempted to base resource allocation on some measure of the need of the students in the schools, and the number of students with these needs, we were unable to determine on a school-by-school basis the number of children in need or the distribution of that need below the district's student selection cutoff. In most of our sample districts, data on the number of eligible students is maintained at the building level. The only data available from the central office are counts of participants by school. Our two proxy measures of school-level achievement--the average achievement of the Chapter 1 participants on a pretest, and the average achievement of all students in one particular grade in a school--may fail to capture the extent of need at the school level. In fact, the percent of students in poverty in a school may be a better indicator of need than the average achievement figures because it reflects the number of children in need (as a percent of enrollment, which controls for school size) against which to measure the level of resources.

Second, the use of Chapter 1 concentration as a need measure is an attempt to adjust the number of students needing services by the size of the

school they attend. Because we do not know the number of Chapter 1 eligible students in each school, our measure of Chapter 1 concentration uses the number of students served in each school. If a school does not serve all of its eligible students, this measure will understate the actual need in the school.

Third, we can make only general statements about the equitability of Chapter 1 resource allocations because our data collection plan generated only school-level resource information; that is, the number of Chapter 1 projects and staff allocated to each school. Thus, our measure of resources allocated to Chapter 1 students is average school resources per Chapter 1 participant, using a duplicated count of students. This measure assumes that students with equal educational needs receive comparable services within each school, which is not true in many cases. Interviews with school-level personnel showed, for example, that the size of the instructional group and length of the instructional period could vary by grade, by Chapter 1 teacher or by student.

Number of projects. Table 5-3 shows the relationship between the distribution of projects and the four need measures for the seventeen sample districts. In 13 of the districts, projects are distributed in a relatively uniform manner across schools. In three of the other four districts, more projects are allocated to high poverty schools and in two, schools with larger concentrations of Chapter 1 students have more Chapter 1 projects. The distribution of projects is related to student achievement in only one case: the percent of elementary school students scoring below the 50th percentile in District 17.

Figures 5-1 through 5-3 illustrate the relationships between the distribution of projects and school poverty, Chapter 1 concentration and student achievement for District 17. There is a small positive relationship between the number of projects and these three variables; that is, a tendency

Table 5-3

Relationship of the Number of Chapter 1 Projects Allocated and the Educational and Economic Need of the Schools

District	Poverty	Chapter 1 Achievement	School-wide Achievement	Chapter 1 Concentration
1	Equal	Equal	Equal	Equal
2	Equal	Equal	Equal	Equal
3	Equal	Equal	Equal	Equal
4	Positive	Random	Random	Random
5	Equal	Equal	Equal	Equal
6	Equal	Equal	Equal	Equal
7	Equal	Equal	Equal	Equal
8	Equal	Equal	Equal	Equal
9	Equal	Equal	Equal	Equal
10	Equal	Equal	Equal	Equal
11	Equal	Equal	Equal	Equal
12	Positive	Random	Random	Positive
13	Equal	Equal	Equal	Equal
14	Equal	Equal	Equal	Equal
15	Equal	Equal	Equal	Equal
16	Random	Random	Random	M
17	Positive	M	Positive*	Positive

M = insufficient data to measure relationship

*For elementary schools only

Figure 5-1

District 17 Elementary Schools

Plot of Projects with Percent in Poverty

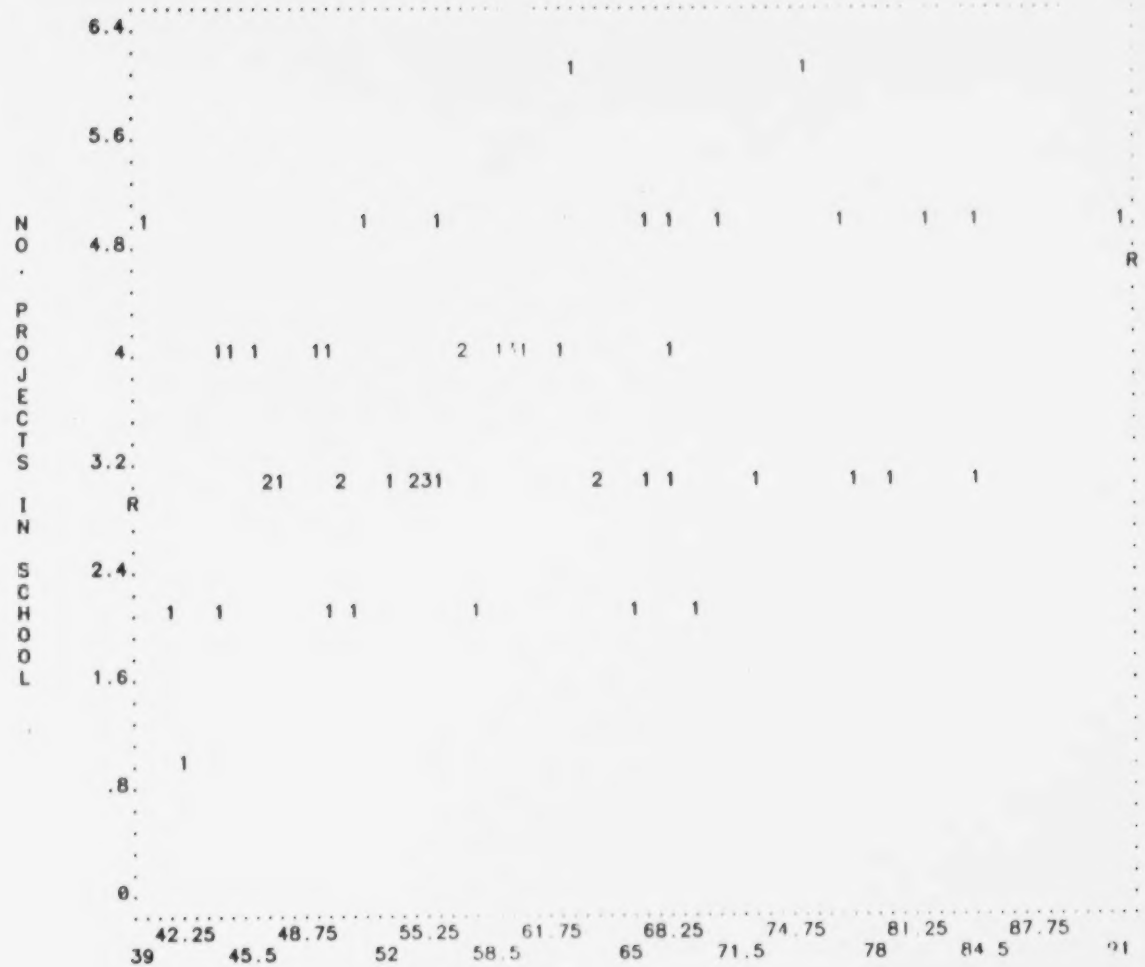


Figure 5-2

District 17 Elementary Schools

Plot of Projects with Chapter 1 Concentration

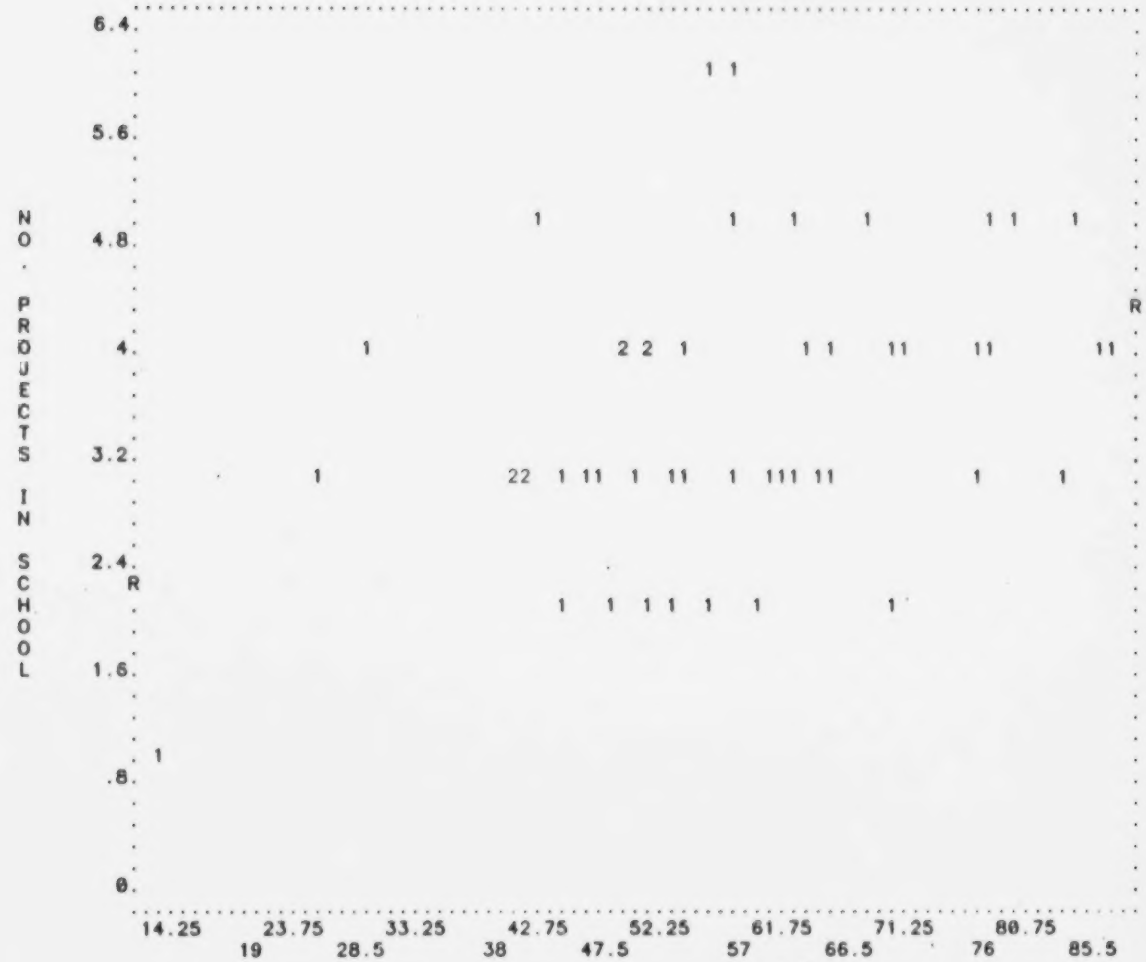
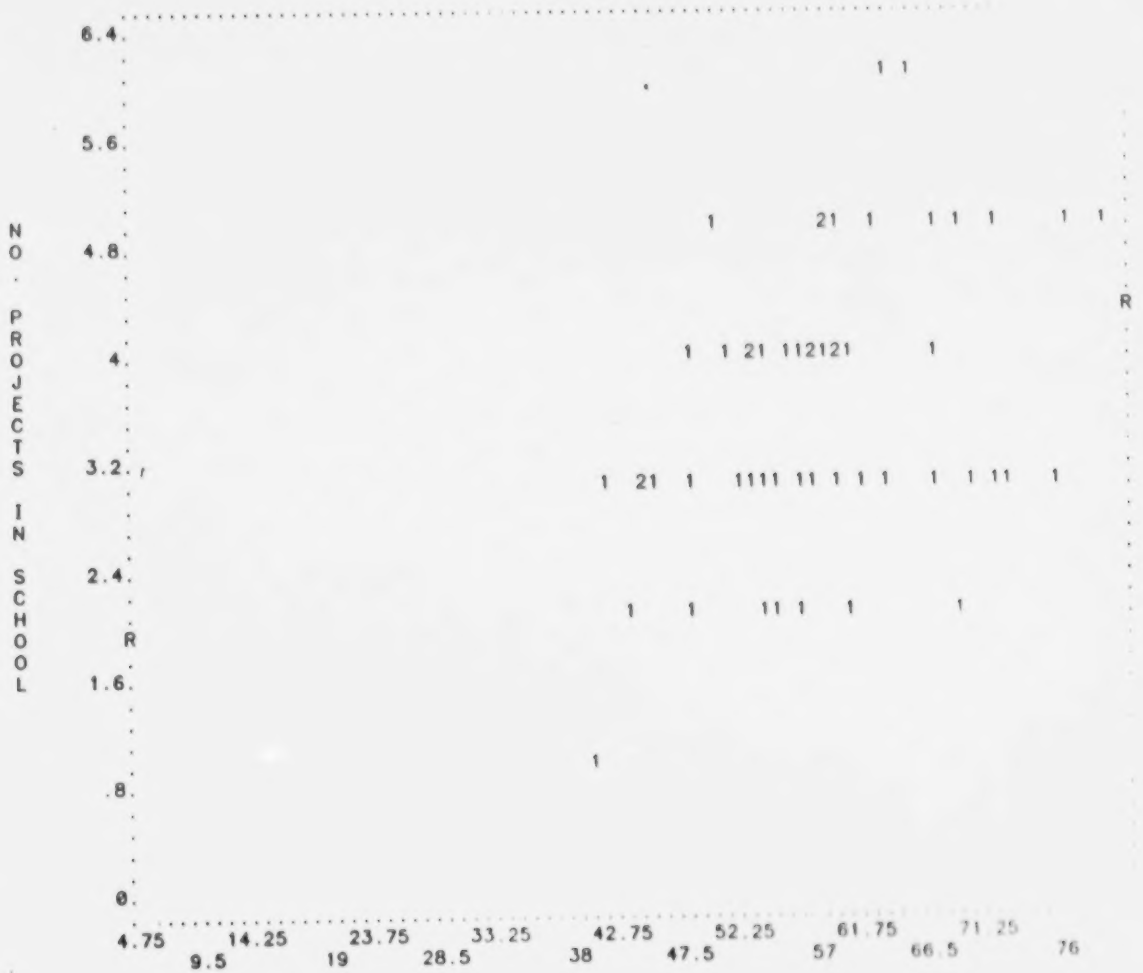


Figure 5-3

District 17 Elementary Schools

Plot of Projects with School-wide Achievement



of higher poverty schools, schools with the highest concentration of Chapter 1 students, and schools with the largest percentage of low-scoring students to have more Chapter 1 projects. Figure 5-4 shows a stronger relationship between projects and poverty in District 4, a district that consciously allocates additional projects to the four highest poverty schools.

Need plays a role as well in those districts where there is a relatively equal distribution of projects. In Districts 1, 2 and 5, for example, pre-kindergarten programs are placed in the poorest schools, the lowest-achieving schools and/or the schools with the highest concentration of Chapter 1 students.

Number of staff. The relationship between the total number of Chapter 1 staff (or staff funded by federal and state dollars in multi-funded programs) and characteristics of the Chapter 1 schools is shown in Table 5-4. Four districts (6, 10, 11, and 15) allocate roughly the same number of staff to each Chapter 1 school, regardless of the relative need of the schools. For example, in District 10 the number of staff allocated to Chapter 1 schools ranges only from 1.0 to 1.8 FTEs, although the range in poverty in these schools was 23 to 48 percent, the range in Chapter 1 concentration was 11 to 43 percent and the range in mean school achievement was 23 to 72 in 1985-86. Similarly, while the average poverty level of participating Chapter 1 schools in District 15 ranged from 31 to 99 percent, and the average Chapter 1 concentration ranged from 13 to 61 percent, the range in Chapter 1 staff was only 2.2 to 3.8 FTE. In six of the districts, more staff are allocated to schools with relatively higher poverty levels. In seven districts, schools with high concentrations of Chapter 1 students have more Chapter 1 staff than those with lower concentrations. In the other cases, distributions are random.

Figure 5-4

District 4 Elementary Schools

Plot of Projects with Percent in Poverty

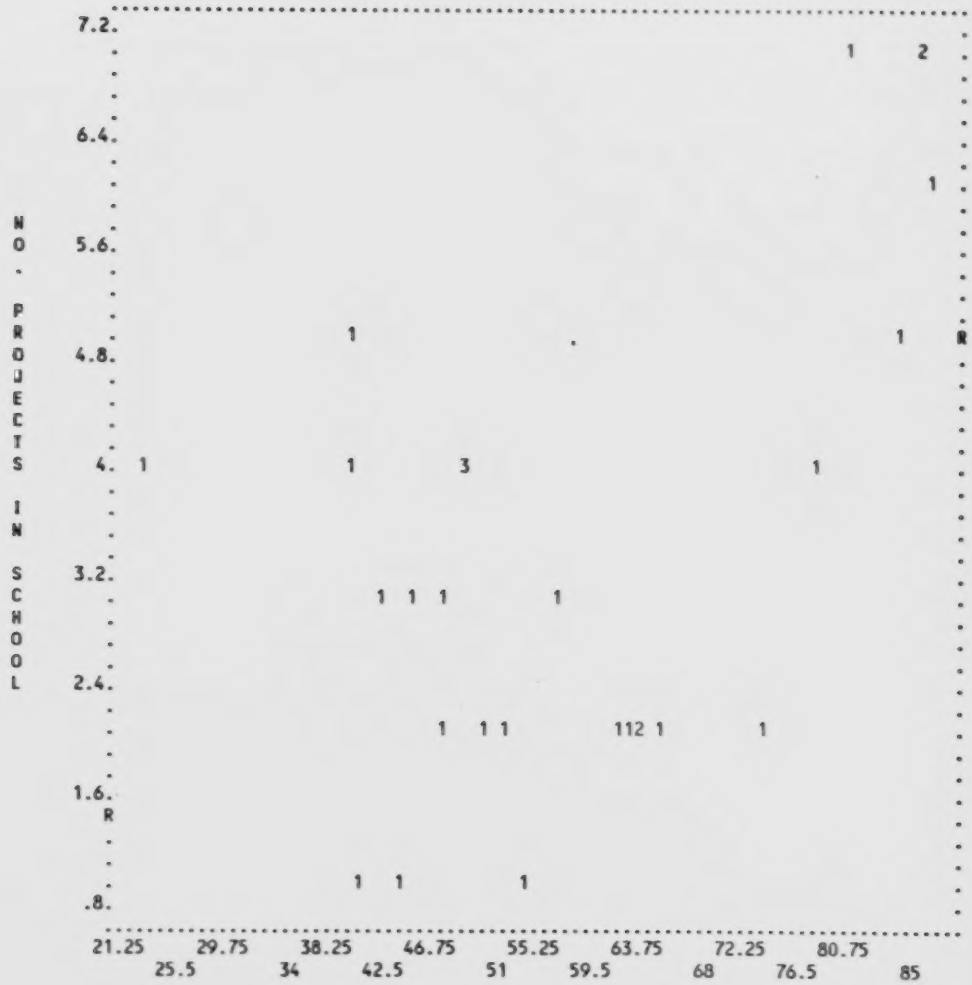


Table 5-4

Relationship of the Number of Chapter 1 Staff Allocated and the Educational and Economic Need of the Schools

District	Poverty	Chapter 1 Achievement	School-wide Achievement	Chapter 1 Concentration
1	Positive	Random	Random	Positive
2	n.a.	n.a.	n.a.	Positive
3	Random	Random	Random	Random
4	Positive	Random	Random	Positive
5	Random	Random	Random	Positive
6	Equal	Equal	Equal	Equal
7	Random	Random	Random	M
8	Positive	Random	Random	M
9	Random	M	M	M
10	Equal	Equal	Equal	Equal
11	Equal	Equal	Equal	Equal
12	Random	Random	Random	Positive
13	Random	Random	Random	Random
14	Positive	Random	Random	Positive
15	Equal	Equal	Equal	Equal
16	Positive	M	Positive	M
17	Positive	M	Positive	Positive

n.a. = insufficient variance in need measure

M = insufficient data for need measure

A non-random relationship between the number of staff and achievement exists in only two cases: District 16 and District 17. In both cases, considerably more staff are assigned to schools with relatively lower achievement: the lowest mean achievement scores in reading (District 16, Figure 5-5) or the largest percentage of low-achieving students (District 17, Figure 5-6).

Average case load. The distribution of Chapter 1 projects and staff across schools may vary because the size of the schools and/or the number of students eligible for Chapter 1 services differ across these schools. Thus, a district may allocate two teachers to School A and one to School B because the number of students needing services is twice as large in School A. One outcome measure that holds size constant is the average case load for Chapter 1 teachers in a school.

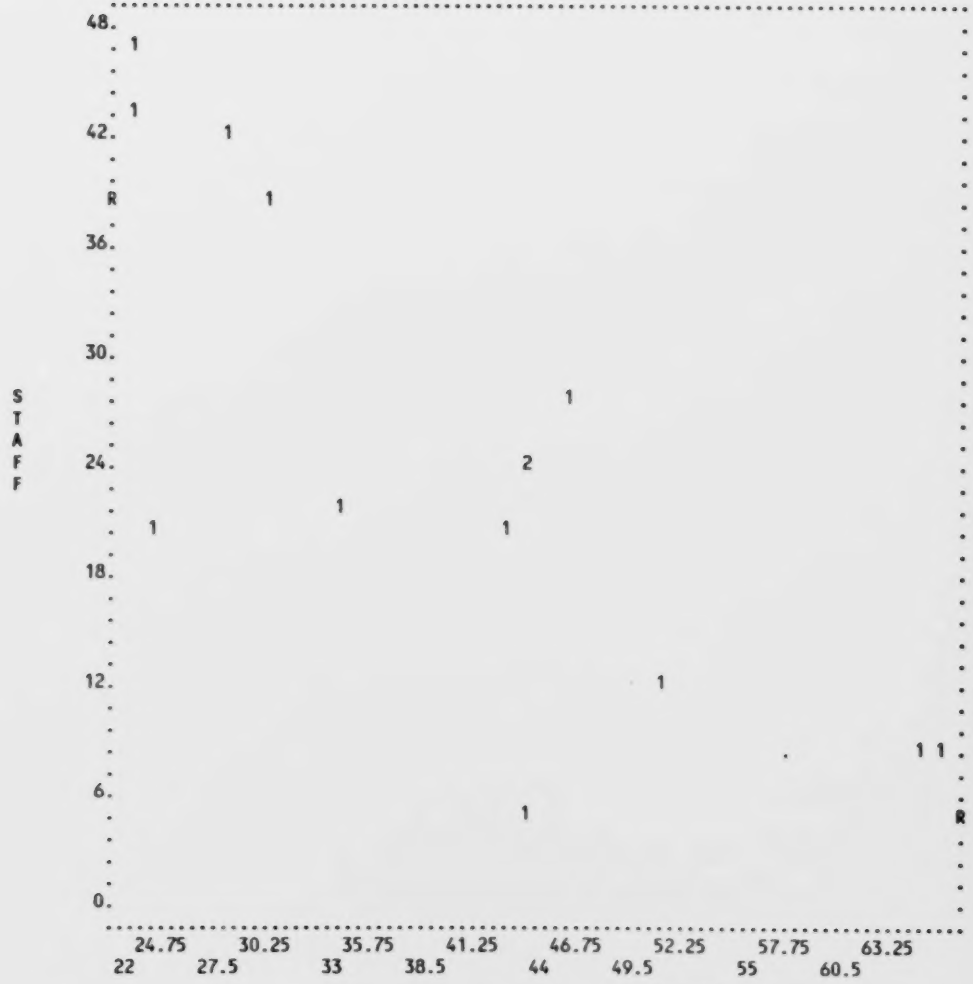
Table 5-5 shows the relationship of the case load in Chapter 1 schools in our sample districts with the four need variables. Three districts (1,8 and 11) have a relatively uniform case load across participating schools. Similar case loads imply that the intensity of services are comparable across the schools. This can be viewed as an equitable outcome of the resource allocation process if students with comparable needs are being served in all schools.

In most of the remaining 12 districts with data, the distribution of case loads is not related to poverty, achievement and Chapter 1 concentrations. There are a few exceptions. In District 7, the average case load is lower in higher poverty schools. The opposite is true, however, in District 15. There, case loads are larger in more impoverished schools. Three districts (Districts 9, 13 and 15) have lower case loads in schools with relatively higher levels of achievement (Figure 5-7), while a fourth district, District 17, has a lower case load in lower achieving Chapter 1 schools. Finally, four

Figure 5-5

District 16 Elementary Schools

Plot of Staff with School-wide Achievement



Mean Reading Score

Figure 5-6

District 17 Elementary Schools

Plot of Staff with School-wide Achievement

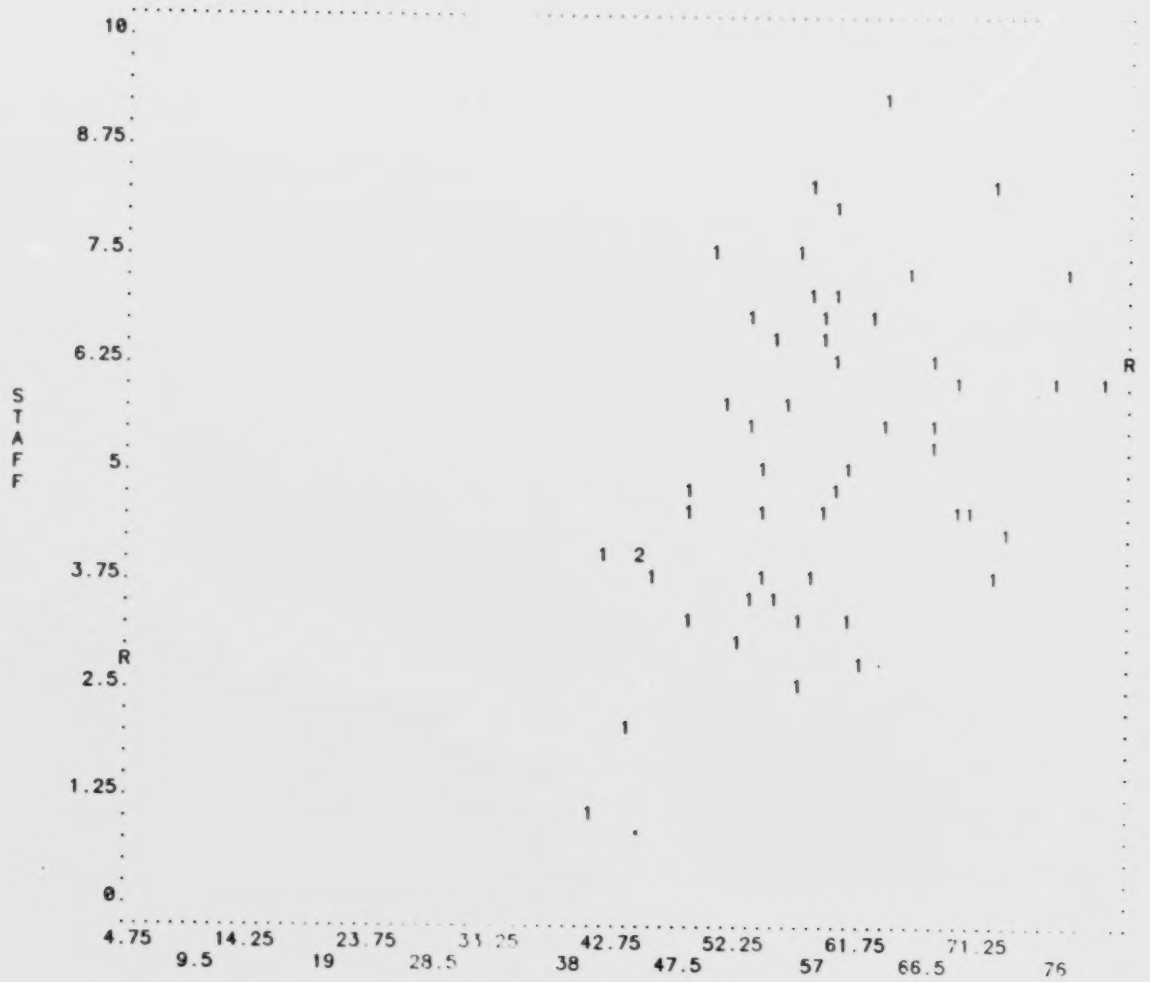


Table 5-5

Relationship of the Average Chapter 1 Case Load and the Educational and Economic Need of the Schools

District	Poverty	Chapter 1 Achievement	School-wide Achievement	Chapter 1 Concentration
1	Equal	Equal	Equal	Equal
2	n.a.	n.a.	n.a.	Negative
3	Random	Random	Random	Random
4	Random	Random	Random	Random
5	Random	Random	Random	Random
6	M	M	M	M
7	Negative	Random	M	M
8	Equal	Equal	Equal	Equal
9	Random	Negative	Negative	Random
10	Random	Random	Random	Random
11	Equal	Equal	Equal	Equal
12	Random	Random	Random	Random
13	Random	Random	Negative	Negative
14	Random	Random	Random	Random
15	Positive	Random	Negative	Negative
16	Random	Random	Random	M
17	Random	M	Positive*	Negative*

* Elementary schools only

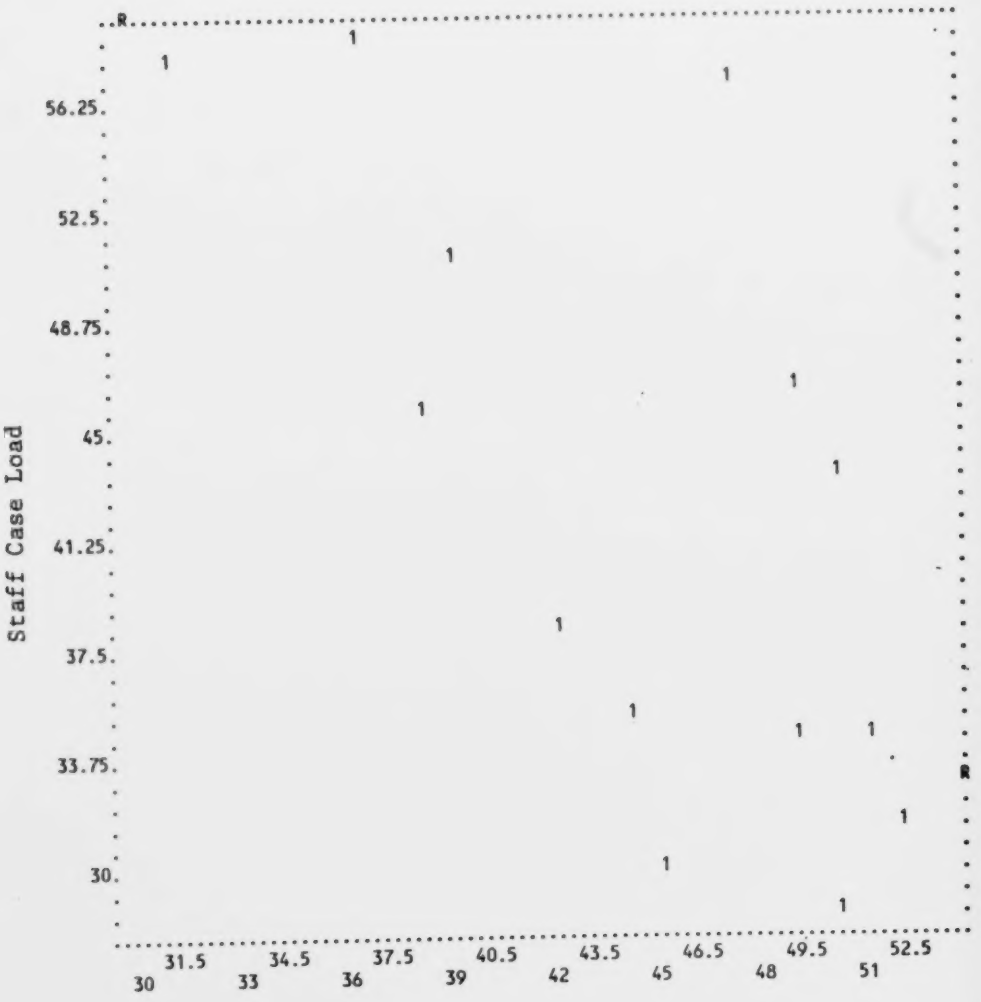
n.a. = insufficient variance in need measure

M = insufficient data to measure relationship

Figure 5-7

District 13 Elementary Schools

Plot of Staff Case Load with School-wide Achievement



districts show a negative relationship between this outcome measure and Chapter 1 concentration. That is, in Districts 2, 13, 15 and 17, case loads are higher in schools with relatively higher percentages of Chapter 1 students. (See Figure 5-8 as an example.)

The negative relationship between case load and achievement, poverty and Chapter 1 concentration means that Chapter 1 staff are serving, on average, more students in high need schools than in low need schools. As a result, the relative intensity of service will be lower in the neediest buildings. These relationships also imply that an insufficient number of staff have been allocated to high need schools, so staff are compensating for limited resources by serving more students with less intensive programs.

Per pupil expenditures. Table 5-6 presents data on the relationship of the distribution of Chapter 1 per pupil instructional expenditures and school need. Most of the relationships are random. We found a negative relationship between per pupil expenditures and Chapter 1 concentration in four districts. That is, per pupil expenditures are generally lower in schools with relatively higher Chapter 1 concentrations. (See Figure 5-9 as an example.) The relationship is reversed in District 9 where elementary schools with high concentrations of Chapter 1 students have higher per pupil expenditures. A relationship between expenditure and achievement shows up in only one district. In District 13, per pupil Chapter 1 expenditures are higher in schools with relatively higher levels of achievement. In four districts (1,8,10 and 11) per pupil expenditures are relatively uniform across Chapter 1 schools.

Figure 5-8

District 17 Elementary Schools

Plot of Staff Case Load with Chapter 1 Concentration

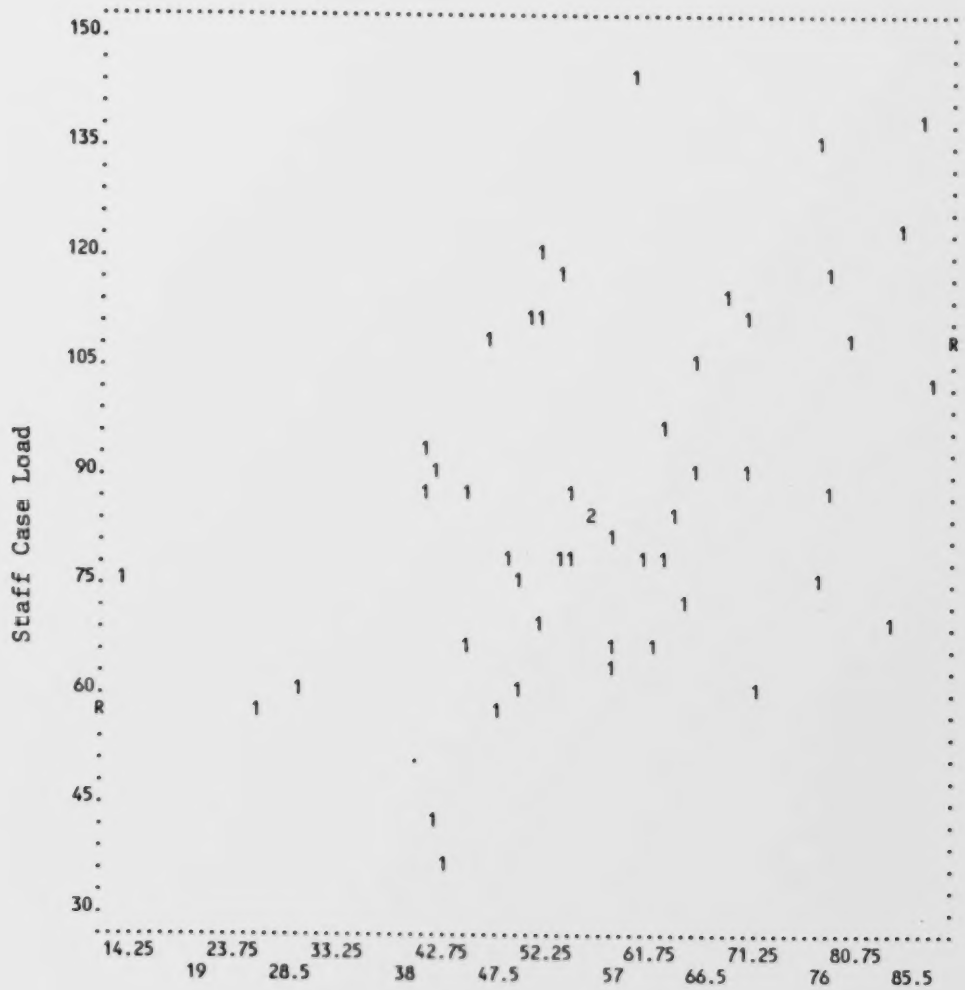


Table 5-6

Relationship of Per Pupil Instructional Expenditures and the Educational and Economic Need of the Schools

District	Poverty	Chaper 1 Achievement	School-wide Achievement	Chapter 1 Concentration
1	Equal	Equal	Equal	Equal
2	n.a.	n.a.	n.a.	Negative
3	Random	Random	Random	Random
4	Random	Random	Random	Random
5	Random	Random	Random	Random
6	M	M	M	M
7	M	M	M	M
8	Equal	Equal	Equal	Equal
9	Random	Random	M	Positive*
10	Equal	Equal	Equal	Equal
11	Equal	Equal	Equal	Equal
12	M	M	M	M
13	Random	Random	Negative	Negative
14	Random	Random	Random	Random
15	M	M	M	M
16	Random	Random	Random	Negative
17	Random	M	Random*	Negative*

* Elementary schools only

n.a. = insufficient variance in need measure

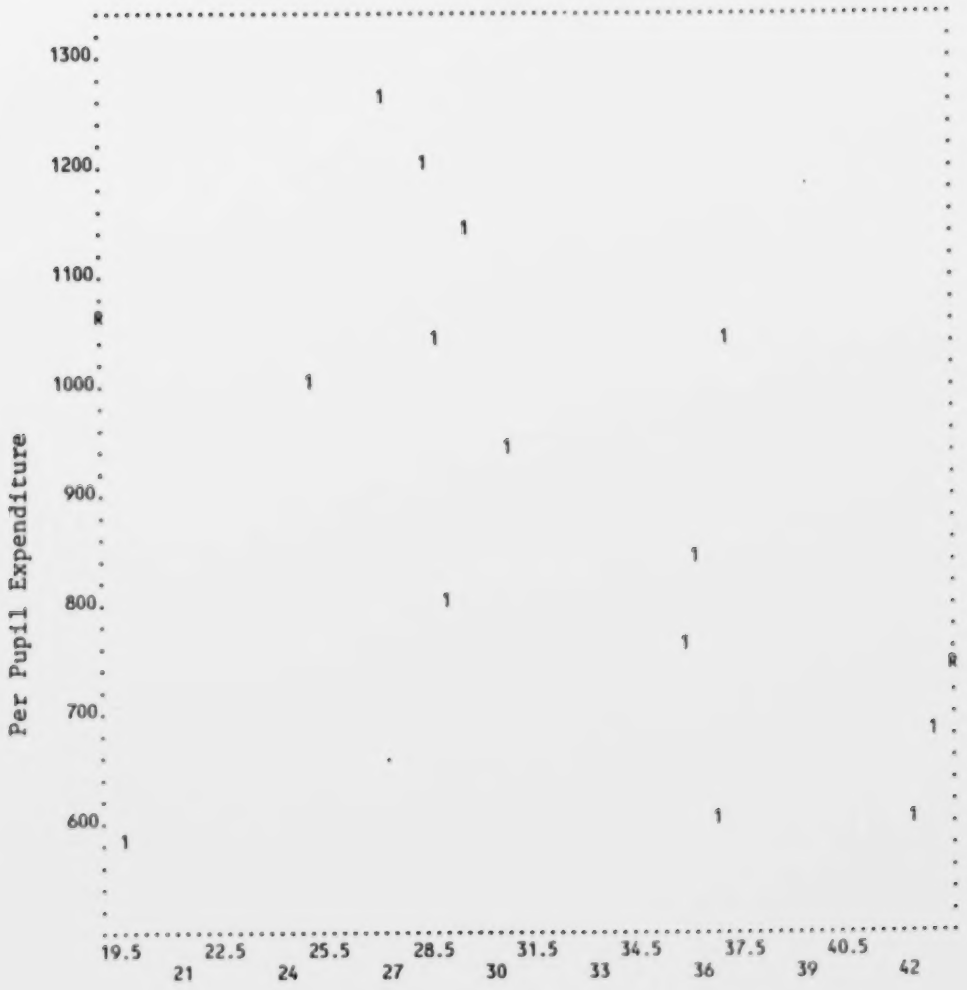
M = insufficient data to measure relationship

Figure 5-9

District 13 Elementary Schools

Plot of Per Pupil Instructional Expenditure

with Chapter 1 Concentration



Most of the districts in our sample allocate different levels of resources (e.g., number of staff) to their Chapter 1 schools. In a few cases, the range in staff is narrow because some staff, particularly teachers, are allocated uniformly across schools. When the number of staff is related to the number of Chapter 1 participants in each school, however, we found a wide range in the average case load for Chapter 1 teachers across schools in thirteen of our seventeen districts. Further analysis of the data showed that these ranges were not caused by "outliers." The same patterns emerged when we examined the distribution of per pupil instructional expenditures across Chapter 1 schools.

We found that in many districts the actual allocation of Chapter 1 staff was only randomly related to the educational or economic needs of Chapter 1 schools. Less than one-half of our sample districts allocated more staff to Chapter 1 schools with relatively higher levels of poverty or higher concentration of Chapter 1 students. A non-random relationship between the number of staff and student achievement existed in only two districts. Variation in staff case loads across Chapter 1 districts also tends to be randomly related to poverty, achievement and Chapter 1 concentrations. In those districts that are exceptions, the general pattern is for case loads to be higher in schools with relatively greater needs.

Factors Explaining Chapter 1 Resource Allocation Patterns

We used the case study data from our seventeen sites to identify four factors that appear to explain the relationships between the distribution of resources and the four educational need measures. These factors are: (1) the need criteria embodied in the district's resource allocation rules; (2) the relationship of the need measure used to the actual building-level need;

(3) the differential accretion across schools of Chapter 1 projects with different allocation rules; and (4) and the degree of building-level discretion in designing programs and selecting Chapter 1 students.

Need Criteria Embodied in Allocation Formula

The first factor that explains the strength and direction of a relationship between resource allocation patterns and need measures is the extent to which a need measure is embodied in a district's allocation formula. For example, we would not expect to find a positive relationship between any measure of need and the number of staff allocated to a school if the district uses a uniform allocation rule; that is, they allocate the same number of staff to each participating Chapter 1 school.

District 15 is an example of a district that allocates much of its staff using a uniform allocation rule. One teacher and aide are assigned to each school; the remaining aides are allocated based on the estimated number of Chapter 1 participants. The number of additional aides range from 2 to 6 per school. This additional allocation cannot compensate for the wide disparity in number of Chapter 1 participants, however. Since schools choose to serve as many eligible students as possible, the resulting case load (and thus intensity of services) varies widely, from a low of 44:1 in the lowest poverty schools to 116:1 in the highest poverty schools.

District 17 allocates its elementary school Chapter 1 math teachers using a uniform allocation rule: one teacher and aide per school. Schools then decide what number of students will be served by the Chapter 1 math program, which is a pullout program. Our interviews with building principals revealed that many of the buildings limit the number of students served, generally limiting the number of grade spans receiving the services. Others tried to spread the services across the school. While we do not have counts of

unserved students, we did examine the relationship of the average case load for the Chapter 1 math staff with the percent of eligible students in each school. We found (1) that while the case load ranged from 30 to 150 across the buildings, it was fairly narrow in one-half of these schools, 60 to 78:1; and (2) that schools with over 75 percent of their students eligible for services were just as likely to have low case loads as were schools with 40 percent of their students eligible. Therefore, we must assume that the uniform allocation of Chapter 1 math staff, combined with case load restrictions imposed by many building principals, left larger numbers of students unserved in high need schools.

On the other hand, districts that allocate all of their Chapter 1 resources using a specific need criterion should show a relationship between resource allocation outcomes and that criterion. For example, the distribution of Chapter 1 projects in District 4 reflects a conscious decision to allocate more projects to the four highest poverty schools in the district, a policy that dates from the early days of Title I. Projects are the basic allocation unit in this district and are allocated centrally: Chapter 1 schools with a high level of poverty are given a larger number of projects than lower poverty schools. The lowest poverty Chapter 1 schools average 1 or 2 projects; the highest poverty schools have between 4 and 6 projects. Since each project brings with it a set configuration of staff, it is not surprising to find more staff in high poverty schools as well.

District 1 should be an example of a district that has a strong relationship between level of resources allocated to schools and student achievement, and a fairly uniform case load across schools, since it allocates one teacher for every 40 students eligible for Chapter 1 services in a school. We did not find any relationship between the number of staff and either

student achievement measure, due perhaps to a narrow range in student achievement across the Chapter 1 schools. The positive relationship between the number of staff allocated and a school's Chapter 1 concentration, however, combined with consistently small waiting lists, supports the district's contention that resources were being directed to schools with the greatest needs. A strict adherence to case load requirements at the building level resulted in a narrow range in case load across the Chapter 1 schools.

Relationship between Measure of Need and Actual Building-Level Need

We were surprised that most of the districts in our sample showed a random relationship, or a negative relationship, between the educational and economic needs of the Chapter 1 schools and the level of resources allocated to these schools, in spite of the use of need measures in their allocation rules. Three situations that arise in the implementation of the allocation rule could explain this finding.

First, a district could use one measure of need to allocate resources to schools and a different measure of need to select students. For example, to avoid the prohibition against using the same test for selection and pre-post testing, and to avoid overtesting in a district already rife with state- and district-mandated tests, District 13 uses the language subscore of a standardized test to generate estimated numbers of Chapter 1 eligible students and to generate staff allocations. Students are selected and served, however, based on their performance on math and reading tests. Since there is some difference between students' language and reading scores, there probably is not a close match between the level of resources allocated and the number of students actually served.

District 8 allocates resources in proportion to the number of students (unduplicated count) who score at or below the 49th percentile in either

reading or math although it never has enough resources to serve this many students. Since each school must provide both reading and mathematics services, and teachers must limit the size of instructional groups to 8-12 students, schools with a large number of students needing multiple services, or with a high concentration of very low-scoring students, cannot serve as many eligible students as a school with lesser needs. In fact, schools with the lowest achieving students serve only grades 1-4, compared to grades 1-5 in less needy buildings. The percent of eligible students served ranged from a low of 39 to a high of 58 percent.

A second explanation for the variation in case loads is a mismatch between the level of resources allocated and building-level need. Because many districts use only a rough case load formula to allocate resources, some schools do not receive enough resources to serve all their eligible students. If the district does not then hold the buildings to a case load standard, high need schools may respond by serving more students with a less intense program. The result is a higher staff case load in these schools. District 2 is an example of this situation. While the district allocates more teachers to schools with the greatest needs, the additional allocation is not sufficient to give those schools the same intensity program as is available in schools with fewer students. Thus, the case load ranges from 27:1 in the less needy schools to 69:1 in the high need schools.

A similar situation exists in District 17 with the elementary school reading aides program, the basic reading service provided in all Chapter 1 schools. The district does not have a formal decision rule for allocating Chapter 1 reading aides, but generally, more aides are allocated to schools with larger number of students needing services. Schools, however, are supposed to serve all eligible students (those scoring below the 50th

percentile). As a result, there is a wide range in case loads for this program across the schools: from about 120:1 in the higher achieving schools to over 300:1 in the lower achieving buildings.

The third factor that contributes to a mismatch between resources and needs across Chapter 1 schools is the "stepwise" allocation of staff. That is, districts do not allocate staff in incremental units in order to service an additional X number of Chapter 1 students. For example, if a district has a policy that allocates one Chapter 1 teacher for every 50 students, it cannot maintain equitable services unless it is willing to allocate a portion of a teacher (e.g., 0.2 FTE) for every 10 students that exceed the case load limit. Yet, most of our sample districts, particularly those with geographically dispersed schools, are reluctant to assign a Chapter 1 teacher to more than one building.

Thus, the degree to which resources will match needs can be affected by a district's willingness to make incremental allocations of staff. A few, such as District 1 and District 3, both small city school districts, will split one teacher across two schools, a few will use part-time aides in order to match services more closely to the needs of the schools (e.g., District 5's math aides program), and still others will add an aide when the case load for a teacher exceeds an acceptable limit (e.g., allocate one teacher for every 50-65 students, one teacher and aide for 75-80 students, and two teachers for 100 students).

Accretion of Chapter 1 Projects

Another factor that accounts for a random relationship between Chapter 1 resource distributions and school characteristics is the differential accretion across Chapter 1 schools, particularly in our larger sample districts. When this accretion is combined with the use of multiple

allocation rules within a district, disparities in the distribution of total Chapter 1 resources across buildings can occur.

In District 13, for example, every school is allocated a pre-kindergarten project, a reading project and a math project. Staff for the pre-kindergarten program are allocated using a uniform allocation rule. The replacement program, which is very staff intensive, does not consider the relative need of Chapter 1 schools, but uses an administrative allocation criterion; four schools that expressed interest and had space are allocated the program. Although staff for the reading and math projects are allocated roughly in proportion to need, using increments of 1.0 FTE teachers, resources for these projects account for only one-half of the Chapter 1 instructional budget.

When average case loads for each project type were related to the relative poverty and achievement level of each school, we found that (1) the case loads for the pre-kindegarten and replacement programs were considerably lower than those for math and reading (18:1-to 30:1 versus 36:1 to 126:1); (2) the replacement projects were concentrated in the lower poverty and higher achieving Chapter 1 schools; and (3) the average case loads for the reading and math projects were lower in the high achieving and low poverty schools (ranging from 36:1 to 60:1) than in the higher need schools (66:1 to 126:1). This accretion of Chapter 1 projects, then, explains the range in Chapter 1 case load and per pupil expenditure in District 13, the lack of a relationship between the number of staff allocated to schools and their level of need, and the random or negative relationship between average case load and the four need measures.

A similar situation exists in District 17. All Chapter 1 schools in District 17 receive a basic level of service (reading aide project and elementary math project). Additional projects are supposedly allocated to

schools "with the greatest need" and program directors responsible for allocating projects do take need into consideration when they first allocate a project. However, these allocation decisions are not reviewed annually, and a project is rarely removed from a school, even though that school may no longer be one of the neediest Chapter 1 buildings. (Since the poverty level of Chapter 1 schools ranges from 40 to over 90 percent, one could argue that there are no "low need" Chapter 1 schools in this district.) The accretion of these projects is complicated by the use of different allocation rules for each project. Thus, a school with only a basic reading and mathematics program will have as few as 2.2 FTE while a school with these projects, a reading lab, basic skills projects and a kindergarten program could have up to 10 FTE staff.

When all of the projects are examined together, the following picture emerges for District 17: a wide range in the average case load and per pupil expenditure across Chapter 1 schools and no consistent relationship between this variation and differences in the educational needs of the buildings. A more disaggregated analysis of individual Chapter 1 projects shows that this pattern can be explained by (1) the way that projects are allocated across schools; (2) the complement of staff allocated with each project; and (3) the amount of discretion that a building has, and how that discretion is used in determining the case load for each project.

It appears that the two more resource intensive Chapter 1 projects in District 17--the basic skills replacement project and ESOL--are allocated to the lower achieving schools. And there is a tendency to allocate reading teachers to schools with the largest percentage of Chapter 1 eligible students. However, these projects bring with them uniform allocations of staff. Thus, schools with more of these projects will have more staff, but schools with the same mix of projects will have the same number of staff,

regardless of differences in needs. The number of staff allocated is based on need in only two projects: reading aides and the in-class basic skills program (which uses only aides and parent-scholars). These projects also bring with them different rules about program intensity. Buildings must limit the number of students served in the ESOL and basic skills replacement program; case loads are low (26:1 - 48:1) and are generally similar across schools. In addition, schools tend to limit the average case load for the pullout reading and math projects to the 60-80 range. Taken together, however, these higher intensity projects served only 32 percent of the Chapter 1 participants. The remaining students participated in aide-based, in-class reading or basic skills projects, projects with case loads ranging from 80:1 to 160:1 in basic skills and 120:1 to 300:1 in reading. And case loads for these projects tend to be higher in the lower achieving schools.

Building-level Discretion

The final factor affecting resource allocation patterns is the amount of discretion that building-level personnel have in allocating Chapter 1 resources within their schools. In three of our sample districts, the central office allocates Chapter 1 resources to the schools, but then gives schools the responsibility for designing Chapter 1 programs. For example, in District 9, the central office allocates one teacher for every 60 eligible students, one assistant (certified personnel) for every 50 eligible students and one aide for every 25 students. Principals are notified of their allocations and determine which type of staff they need and want; a school can request two aides instead of the one assistant it was allocated. School personnel also determine which students receive services, in which subject matter areas, how many minutes a day and days a week.

District 4 allocates projects to schools, but schools can shop from a menu of projects and over the course of the year can shift subject matters,

setting, grade levels, or any combination (although the actual staff members in a school generally stay constant). Thus a school can decide at mid-year (or more often) that the need in reading has shifted to grades 4-6, and refocus many of its resources there. As a result of this discretion, the allocation of Chapter 1 resources to students within buildings may vary considerably across schools within a district or across students within schools during the school year. This discretion explains the wide variation in case load across the schools, as well as the lack of a relationship between case load and poverty in a district that allocates more projects and staff to high poverty schools. An examination of project-level case loads shows a range in reading projects of about 24:1 to 90:1 and in math projects of about 40:1 to 86:1, and no relatinoship between case loads and school poverty.

Chapter Summary

All of the districts in our sample used distributive criteria as the basis for allocating Chapter 1 resources to their schools. Fifteen of the 17 districts took educational need into consideration when allocating at least a portion of their Chapter 1 resources; ten used this factor exclusively. None of the districts used administrative and/or political criteria as the principal basis for allocating Chapter 1 instructional resources. Rather these criteria acted as constraints on the operation of distributional formulas.

The inclusion of educational need in these districts' Chapter 1 allocation rules did not necessarily result in a comparable level of services or similar Chapter 1 per pupil expenditures across participating schools. Fewer than one-half of the sample districts allocated more staff to Chapter 1 schools with relatively higher levels of poverty and/or higher concentration of Chapter 1 students. Only one or two related the allocation of staff to

student achievement. These allocations were not sufficient to overcome variations in educational and economic need across Chapter 1 schools. As a result, average staff case load either bore no relationship to the educational needs of Chapter 1 schools or was higher in schools with relatively greater needs.

Four factors appear to explain these outcomes: (1) the extent to which a need measure is embodied in a district's allocation formula; (2) the relationship of the need measure to the actual building-level need; (3) the differential accretion across schools of Chapter 1 projects with different allocation rules; and (4) the extent of building-level discretion in allocating Chapter 1 resources within the schools.

CHAPTER 6

ALLOCATION OF CHAPTER 1 RESOURCES TO PRIVATE SCHOOL STUDENTS

Introduction

Chapter 1 requires that school districts serve low-achieving students who attend nonpublic schools and who live in Chapter 1 target attendance areas in that district. Furthermore, in allocating resources to participants in private schools, districts must ensure that expenditures in private schools are "equal" for participating public and non-public students, taking into account the number and special educational needs of such children.

On July 1, 1985, the U. S. Supreme Court held that providing Chapter 1 instructional services on the premises of religiously-affiliated nonpublic schools was unconstitutional (Aguilar v. Felton). Districts had to seek alternative ways of providing Chapter 1 services to nonpublic pupils in the 1985-86 school year while adhering to the equitable service requirement except in districts with temporary (usually one-year) delays or stays. One study found that school districts served 40 percent fewer private school students in the wake of Felton. This decline was attributed to the reluctance of parochial school officials and parents to send students to public schools or neutral sites for Chapter 1 services, the two most popular approaches adopted by school districts (Crawford, 1986).

In this chapter, we use data from our sample districts to answer three questions about Chapter 1 services to private school students. First, how did our sample districts respond to the Felton decision? Where did they serve students and what type of programs did they provide in 1985-86? Second, what were the resource allocation implications of these changes? Third, how did they allocate resources to private school students? To what extent did public

and private school students in our sample districts receive comparable services? Since we did not collect private school enrollments for 1984-85, we cannot assess the impact of Felton on the number of private school students participating in Chapter 1.

Services to Private School Students, 1985-86

Table 6-1 summarizes how Chapter 1 services were provided to private school students in our 17 sample districts in 1985-86. Four districts had not provided services to private school students during the period covered by our study. Five more districts had offered services in 1984-85, but chose not to in 1985-86 because of the Aguilar v. Felton decision (three districts) or for other reasons (two districts).

Eight of our 17 sample districts offered services in 1985-86. One district had provided services in a trailer prior to Felton and continued this mode of service in 1985-86. A second district served private school students in their own schools but only after March 1986 when a court stay allowed teachers to return to the private schools for the remainder of the school year. The remaining six districts changed the setting and/or structure of the Chapter 1 program for private school students. All had served private school children exclusively in their own schools prior to the Felton ruling. One district moved services to trailers parked outside the private schools; two either walked or bussed private school students to nearby public schools; two served students through computer terminals; and one used a combination of these approaches (public schools, a neutral site, and computer-assisted instruction).

Table 6-1

Services to Private School Students in Sample Districts, 1985-86

Had not served since 1980-81	
4 districts (Districts 6, 8, 10 and 15)	Had not provided services to private school students in last five years.
Served in 1984-85 but discontinued services in 1985-86	
2 districts (Districts 13 and 14)	Dropped services for reasons unrelated to Felton (private school closings; decline in enrollments).
2 districts (Districts 3 and 9)	Dropped services because of Felton.
1 district (District 7)	Suspended Chapter 1 services to private school students in 1985-86 because of Felton, but will resume services in 1986-87.
Served in 1985-86	
2 districts (Districts 2 and 11)	Served students exclusively in trailers (one switched to this mode after Felton).
2 districts (Districts 1 and 5)	Served students in public schools (both switched because of Felton).
2 districts (Districts 12 and 16)	Provided computer-assisted instruction (CAI) through "dummy" terminals (both switched to this mode because of Felton).
1 district (District 4)	Served students in a public school, a neutral site and through CAI (switched because of Felton).
1 district (District 17)	Did not serve private school students until March 1986 when district received court stay to serve students in private schools for the remainder of the 1985-86 school year.

Elimination of Services

Two districts dropped Chapter 1 services to private school students for reasons unrelated to the Felton decision. District 13 had served about 50 to 75 students enrolled in two or three private schools prior to 1985-86. One of the two schools that had been served in 1984-85 closed and the other elected not to receive services. No reason for non-participation was given, but private school participation in the program had been decreasing over the years as private school enrollments declined. In District 14, the one participating private school, which had 55 Chapter 1 students, also closed.

In two other districts, private schools decisions were directly related to Felton, but in both cases private school participation had been very limited. District 3 had never served more than 15 students in 1 or 2 private schools. In 1985-86, the private schools declined to send their students to a neutral site for services. In District 9, fewer than 20 students in two non-public schools had participated in the Chapter 1 program. The non-public schools were offered services in 1985-86, but refused to have students transported to nearby public schools.

Suspended Services

Prior to the Felton decision, District 7 served nearly 150 students in three private schools, about 11 percent of the total Chapter 1 participants. In 1985-86, the district pulled their Chapter 1 resources out of each private school until an appropriate alternative could be found. The five Chapter 1 teachers and two aides diagnosed needs and prescribed instruction which was delivered by private school-funded staff. The Chapter 1 - funded staff spent the remainder of their time providing Chapter 1 services in the public schools. In 1986-87, the district plans to locate three stationary trailers off-site of the three private schools.

Services in Trailers

Two districts served private school students in trailers. District 2 used this type of facility prior to the Felton decision. In 1985-86, the district served approximately 50 students from one private school (about 4 percent of the Chapter 1 participants) in a mobile van. A letter from the State Department of Education in May of 1986 informed districts in this state that this arrangement was permissible as long as a sign was put on the mobile unit indicating that it is public property.

District 11 rented trailers to serve 41 private school students, or 4 percent of its Chapter 1 participants. The trailers were located outside the 3 private schools it had served in the past. The district had not decided on how it would serve private school students in the 1986-87 school year.

Services in Public Schools

Two districts chose to serve private school students in public schools in the wake of the Felton decision. In these districts, private school students represent 2 to 3 percent of total Chapter 1 participants. District 1 served only one school prior to the decision. In 1985-86, students were walked from this parochial elementary school to the nearest public school, a junior high school. To minimize disruption to the schedules of the 15 students and the time lost walking back and forth to the public school, classes were conducted twice a week for 75 minutes, rather than daily for 30 minutes as in the past.

District 5 served 80 private school students from six schools in public school settings in 1985-86. Students were transported and served in separate classes in the district's Community Education Center or in regular Chapter 1 classes in three other public schools.

Computer-assisted Instruction

Two districts provided Chapter 1 services through home-based, computer-assisted instruction. District 12 served 270 elementary school students from

14 private schools in 1985-86. The students, who represent 10 percent of all Chapter 1 participants, took home a "computer" program supplied by Prescription Learning. The program is on tapes in a box that uses the television set as a monitor. The tapes, which are brought into a center periodically, include both lessons and tests. Seven tutors are available on a daily basis to assist the students' parents by telephone or in person. At an initial meeting, tutors teach the parents how to hook these "computers" to the television set, how to work with the workbooks and how to assist with the work. There are only enough computers for one-half of the students at a time, so students alternate working with the taped programs and in workbooks.

District 16 served 356 students enrolled in seven private schools in 1985-86, or slightly less than three percent of the Chapter 1 population. In the wake of the Felton decision, the district contracted with a private vendor to provide CAI laboratories in these private schools. No public school teachers were involved in the operation of the program.

Combination of Methods

District 4 served 118 students (five percent of Chapter 1 participants) from four private schools using a variety of programs. One private school walked its students to the closest public school where they received the same services as the public school students. Students from a second school were served in an apartment across the street from the private school. Two schools were served through a public school which has advanced computer labs. The non-public school students are given restricted access through "dumb terminals" to programs provided by an outside vendor. Their activities are monitored from the receiving end by a public school Chapter 1 teacher.

Services Remained in Private School

The largest district in the sample, District 17, also had the largest private school participation in the Chapter 1 program. In 1985-86, the

district had planned to serve over 9,000 students in 55 parochial schools. This represents about 13 percent of public and private school Chapter 1 participants. With the Felton decision, the district looked at pairing schools (providing services in an adjacent public school) and at using neutral sites. They found they could pair only 13 of the 55 non-public schools (because of problems with distances and instructional programming) and found only one neutral site that did not violate building codes. The district implemented one Basic Skills readiness program at the neutral site, a community center, and requested a stay from the court. While they awaited the stay, which came at the end of February 1986, the district pulled the Chapter 1 staff out of the private schools and reassigned the teachers and aides to the public schools. All but one teacher and about two-thirds of the aides went to the public schools. (They were allowed to spend September in the private schools doing diagnostic work and establishing the eligibility lists.) State compensatory education funds and state aid for private schools were used to provide remedial services to the private school students. When the stay was granted, all of the Chapter 1 staff who had formerly served private school students were reassigned back to the private schools for the remainder of the school term. The school district plans full-time reading services and ESOL service for private school students in 65 mobile vans parked curbside at the private schools in 1986-87.

Resource Allocation Implications of Changes

Districts are not required to record or report Chapter 1 expenditures separately for public and private school students, and we did not attempt to collect or estimate these data from our sample districts. We did determine, however, to the extent possible, the number and type of staff assigned to private school programs and the number of private school students served in

1980-81, 1982-83 and 1985-86. If the districts provided transportation services, rented or purchased mobile vans and/or invested in computer-assisted instructional systems, we asked for an estimate of the cost of these services. Therefore, our analysis of the impact of changes in services to private school students is limited to three areas:

- the number of private schools and private school students served by Chapter 1 in 1982-83 and 1985-86;
- the level of resources (as measured by staff or other available measures) allocated to private school students during this period; and
- the impact of major purchases for private school programs (e.g., mobile vans or CAI systems) on resources available to both public and private school students.

We summarize the data collected in each of these three areas by type of program change below.

Elimination of Services

Chapter 1 services were not provided to private school students in four of our sample districts in 1985-86 for the reasons discussed above. These districts had not served large numbers of private schools or private school students: no more than 150 students in six to eight schools in the four districts combined, compared to 7,700 public school students who participated in Chapter 1 in these districts. The level of resources allocated to private schools in these districts reflected the small size of the program: 0.3 FTE teacher in District 3, 0.5 FTE teachers each in Districts 9 and 13 and one teacher in District 14. We have no information on how these staff, who account for less than two percent of the Chapter 1 staff who served public school students in all four districts, were used in 1985-86.

Suspension of Services

In Districts 17 and 7, where Chapter 1-funded services to private school students were postponed for part or all of the 1985-86 school year

respectively, staff were assigned to the Chapter 1 program in the public schools until services to private school students were resumed. In District 17, 63 FTE teachers and 148 FTE aides served 9,300 students in 55 private schools; they represented about 15 percent of the district's Chapter 1 teachers and aides. District 7 had allocated 5 teachers and 2 aides to serve about 150 private school students. This represented 13 percent of the district's Chapter 1 teachers and 7 percent of its aides.

Services in Trailers

One district (11) moved private school programs into trailers parked on the sites of the private schools and two more districts (7 and 17) plan to use this approach in the 1986-87 school year. In District 11, it appears that the change in setting did not have an adverse effect on participation by private school students. The number of private schools served remained the same. The number of students served dropped from 188 to 41 between 1982-83 and 1985-86, but this decrease was attributed to fewer students being eligible for services. Since the trailers were rented, the program change was not a fiscal burden.

District 17 plans to purchase 65 mobile vans to serve private school students in 1986-87. The vans will cost $2.4 million to purchase and the district will spend about $1 million a year to transport them to the schools daily and to operate them. These costs will come off the top of the district's allocation before it is divided between the public and private school programs. The $2.4 million purchase price is equivalent to 5 percent of the district's 1985-86 allocation. The $1 million a year operating budget translates into approximately $15 per private and public school participant, or about 3 percent of the current per pupil instructional expenditure for the Chapter 1 program.

No numbers were available as to the number of staff who will be assigned to the vans next year. Each van, which will hold a maximum of 16 students in two instructional areas, will have a full-time teacher and full-time aide. Class sizes will be 16 for one teacher and aide and students will receive instruction for 45 minutes a day. The district hopes to conduct inservice training programs for the teachers at an off-site location. The change in delivery system will not change the district's basic allocation formula, however. The private school program will continue to receive the same per pupil dollar allocation as the public school program.

District 7 will purchase three trailers for a total of $60,000. The cost will come off the top of their allocation and represents about 3.5 percent of their allocation or about $45 per pupil, which is 3 percent of the average Chapter 1 per pupil expenditure. No data are available on the costs of operating the trailers. The district plans to assign the same number and type of staff to the private school students as in 1984-85. Private school participation did not decline in 1986-87.

Services in Public Schools

Districts 1 and 5 served private school students in public schools in 1985-86. Both districts served the same number of private schools as in 1984-85, but fewer private school students participated. In District 1, private school students walk to a neighboring junior high school. The Chapter 1 administrator noted that the private school decided to send only those students who were "most in need" because of the walk. Participation in the program dropped from 40 to 15 students. In District 5, where students are transported to nearby public schools, the number of participants decreased by one-third, from 124 to 80.

District 1 allocated fewer resources to private school programs in response to declining enrollments. It had planned to assign a full-time

teacher to the private school because enrollments in previous years had required this level of staffing. The lower participation rate required only one-half of the teacher's time. She spends the remainder of her time in a public school that would have been dropped from the Chapter 1 program due to cuts in the district's allocation.

District 5 allocated about the same number of staff to the private school program in 1985-86 as in the past. It cost the district between $30,000 and $35,000 in 1985-86 to transport private school students to the public schools. This amount, which was about one percent of that year's Chapter 1 allocation, came "off the top" of the budget.

Computer-assisted Instruction

Districts 12 and 16 switched from direct instruction by teachers and aides in private school classrooms to the use of computer-assisted instruction using terminals in the private school classroom or in the students' homes. In District 12, the number of participating students decreased by about 25 percent between 1982-83 and 1985-86, but in District 16, the number of participating schools and students increased between 1984-85 and 1985-86, from 257 students in 6 private schools to 356 students enrolled in 7 private schools.

District 12 retained the seven tutors who had served private school students in their own schools in the past and added $165 per pupil worth of home-based computer programs to the Chapter 1 program. Thus it appears that the private school program has had an increase in resources.

District 16 spent the same amount of money on the CAI program for the private schools as it had planned to spend on direct services prior to Felton. In its original 1985-86 appplication, the district had budgeted an estimated $255,600 for teachers, a part-time parochial school supervisor and materials

for the non-public schools. After the court decision, the district replaced the $243,000 allocated for the staff with a $240,000 contract with a private vendor to provide CAI labs for the private schools. The district left the budget for instructional supplies and materials intact.

Allocation of Chapter 1 Resources to Private School Students

This section discusses the rules that districts used to allocate Chapter 1 resources to private school students in 1985-86 and the staffing patterns that resulted from these approaches. Since we did not attempt to collect or derive separate per pupil expenditures for private and public school students, we cannot assess whether districts are allocating "equal" expenditures to both groups. Nor would this be particularly appropriate because Chapter 1 legislation stipulates that equal expenditures for public and private school students are only required after taking into account the number and needs of private school students. We can, however, compare average case loads across the two sectors, which serves as our proxy for assessing whether services were equitable for public and private school students.

Districts in our sample used one of three approaches in allocating resources to private school students in 1985-86. These approaches reflected the size of the private school program (number of schools and students to be served), the type of resource allocation policies used for the public schools, and program design. The following three scenarios are examples of what we found.

Districts 1 and 5 use a rough case load approach, mirroring the formula used for the public school students. Both districts used this approach when students were served in private schools, and continued it when services were moved to public schools. The number of students in each site is small, and no teacher is assigned to more than two or three schools. In addition, the small

number of students in each site has led District 5 to allocate only teachers to private schools who teach both reading and mathematics, while the public schools are allocated teachers for the reading program and aides for the mathematics program.

The combination of this "stepwise" allocation of teachers and different staffing mixes resulted in different average case loads in the private and public school programs. For example, in District 1, 0.5 FTE of a teacher served 24 private school students (a duplicated count) for a case load of 48:1. This compares to a 43:1 case load for the public school students. In District 5, the case loads averaged 53:1 for private school students compared to 80:1 for the public sector. The same pattern can be found in District 7, a district that had planned to allocate one reading teacher to each of two private schools and two reading teachers, one reading aide, one bilingual teacher and one bilingual aide to a third school in 1985-86. The average case load in the private schools would have been 25:1, somewhat lower than the case load of 33:1 in the public schools. In summary, the use of step-wise staff allocation formulas in our sample districs typically resulted in differential case loads for public and private school Chapter 1 programs. Sometimes these case loads favored public school students, but more often they favored private school students.

Districts 12 and 17 allocate dollars to the private school program. In the latter case, the district subtracts administrative and other non-instructional costs from its Chapter 1 budget and divides the rest by the estimated number of public and private school students. The private school program receives an amount equal to this per pupil expenditure times the number of private school participants. The private school program is administered by the district, but planned cooperatively with the Catholic

school system, the only private schools that have chosen to participate in the Chapter 1 program. In District 12, the "target" per pupil expenditure is applied to the private, as well as public, school program. The resulting case loads were comparable in the public and private school programs in both districts.

As discussed above, prior to the Felton decision, District 16 had planned to allocate 8 teachers, part of a supervisor and funds for instructional materials to serve 356 Chapter 1 students in 7 private schools. After Felton, the district eliminated the staff positions and used an equivalent amount of money to purchase a contract with a private vendor to provide CAI labs for the private schools. The funds allocated to the CAI system and instructional materials in 1985-86 resulted in a per-pupil expenditure of $710, an amount greater than the non-administrative per-pupil Chapter 1 budget for the public schools, estimated to be $692 per pupil. The Chapter 1 coordinator in that district maintained, however, that services to private school students are not necessarily equal to those provided in the public schools, since the new program provided private school students only supplies, materials hardware and software, not direct instructional services by compensatory education teachers.

Summary

The Supreme Court's decision in Aguilar v. Felton changed or eliminated services to private school students in 10 of the 13 sample districts that had served this population since 1980-81. Each previously had provided Chapter 1 staff for instruction on private school premises. The districts showed a mixed response to the decision in 1985-86. Private schools in two districts withdraw from participation in the Chapter 1 program. Two districts temporarily suspended services to private school students, transferring the Chapter 1 staff to public schools, while alternative arrangements were

planned. Six districts changed the way they provided services. Two commenced services in public schools; two switched from live instruction to computer services; one moved instructional services from private schools to mobile vans located at the school; and one employed a range of approaches, providing computer services for one group of students and live instruction at public schools or neutral sites for others.

The impact of these changes on private school student participation and resource allocation was also mixed. In the two districts that eliminated services, fewer than twenty private school students had participated in the program. In the districts where private school students were served in public schools, students' or parents' reluctance to have them walk or transported mid-day to these locations resulted in reduced numbers of private school participants; but again, the numbers of previous participants had been small. It appears from our very limited sample that provision of services to private school students in vans located on the site of the private schools or through the use of computer-assisted instruction located in the private schools or students' homes has not had a negative impact on the number of private school students participating in Chapter 1. The two districts that temporarily suspended services in 1985-86 plan to reinstate programs of comparable size to those provided prior to the Felton decision.

Eight districts allocated fewer teachers to private school students in 1985-86 because programs were eliminated, suspended, reduced in size or had radically different delivery systems (e.g., CAI). In the four where we have data, three chose to assign these staff to public school programs; one replaced the instructional positions with a CAI system. Our districts that used private school allocations to purchase (or lease) CAI systems offset the additional costs by eliminating or reducing the number of instructional staff

serving private school students. Our districts that purchased or leased mobile vans and/or transported students to public schools or neutral sites, however, took these costs "off the top" of their Chapter 1 budgets before allocating funds or services to public and private school students. These expenditures ranged from one to five percent of a district's allocation, or $8 to $45 per Chapter 1 participant (public and private).

Districts used a variety of approaches in allocating Chapter 1 resources to private school students: teacher case load, based on the number of private school students needing services; a dollar amount equal to the average per pupil expenditure for all Chapter 1 participants times the number of private school participants; and services, such as computer-assisted instructional systems. The method used by a district reflects the size of the private school program (number of schools and students to be served), the type of resource allocation policies used for the public schools, and program design decisions.

When a staff allocation formula was used to allocate Chapter 1 services in our sample districts, somewhat different case loads for private and public school programs resulted, usually favoring private school students. Districts in our sample that allocate dollars, rather than staff, to the private school program provide equal dollars for public and private school participants. The picture is less clear when districts provide non-personnel instructional services such as CAI, to private school students. It appears that in the two districts in our sample that adopted this design are allocating resources of equal dollar value to private and public school Chapter 1 participants.

CHAPTER 7

THE RELATIONSHIP OF CHAPTER 1 TO OTHER SPECIAL NEEDS PROGRAMS

Introduction

The way in which a district allocates Chapter 1 resources may be affected by the availability and operation of other special needs programs, such as state or local compensatory education (SCE/LCE), special education and/or bilingual/ESL education programs. For example, we saw in Chapter 4 how the requirements of a state compensatory education program led two of our sample districts to limit Chapter 1 services to a small number of eligible schools or to only one program area. Conversely, the presence or absence of Chapter 1 services in a school could affect how a district allocates other special needs programs to that school. Most districts will have an overlap between Chapter 1 and special education populations, and many will have students who are eligible for both compensatory education and bilingual or ESL services. Yet, prior research suggests that districts generally limit program participation for multiply eligible students to one program. The boundary between learning disabled and educationally-disadvantaged students is particularly blurred; both groups are characterized by low achievement scores and the types of services provided are often similar. Therefore, students in a Chapter 1 school who might otherwise receive services from a special education program may not be identified, receiving services instead from the Chapter 1 program (Knapp, et. al, 1983; Birman, 1981).

Under Title I, the appropriate relationships between Title I and SCE, special education and bilingual/ESL programs were defined in considerable detail by the federal legal framework. With respect to handicapped and LEP

students, two competing concerns were balanced. On the one hand, it was important that these students not be denied Title I services merely because of their physical, mental, or language handicaps. On the other hand, it also was important that districts not use Title I funds to provide services they were obligated by law to provide with state and local funds, or with other federal funds. Title VI of the Civil Rights Act of 1964, as interpreted by federal regulations and the Supreme Court, required school districts receiving federal funds to use their own state and local resources to ensure effective participation of LEP students in district educational programs. Another federal law, P.L. 94-142, required school districts to provide handicapped students--with state, local and non-Title I federal funds—free appropriate education. Numerous state laws imposed similar requirements. Thus, the Title I legal framework stated that handicapped and LEP students could receive Title I services, provided the services supplemented, and did not supplant, the services to which the students were entitled under these other state or federal laws.

With respect to state compensatory education (SCE), federal concerns had additional dimensions. Since Title I was never sufficiently funded to serve all eligible students, Congress wanted to encourage states to enact SCE programs to help make up the difference, and Congress did not mind if the states, in doing so, also made eligible for SCE educationally deprived children in the non-poor areas of school districts. (For purposes of this discussion, SCE refers only to those state or local compensatory education programs designed to meet the legal standards for special, favorable treatment under Chapter 1. The most important standards require that SCE services be designed to meet the special educational needs of educationally

deprived children and that they supplement regular state and local educational services.)

Congress also noted that, since SCE and Title I services were similar, it did not matter if an individual student's compensatory education program were funded by Title I, SCE, or a combination. What mattered was whether disproportionate amounts of SCE funds went to non-poor areas of school districts; that is, whether students eligible for Title I, in the aggregate, received their proportionate, fair share of SCE resources. Thus, Congress did not require that Title I services to an individual student supplement the SCE services that student would have received in the absence of Title I; rather, Congress required that Title I services supplement the SCE funds which Title I eligible students, as a group, were entitled to receive as their fair share. How a district used the Title I funds and the Title I eligible students' fair share of SCE funds to provide compensatory services in Title I eligible areas was left principally to the district's discretion.

The enactment of Chapter 1 left the legal framework regarding services to LEP and handicapped students essentially unchanged. (Standards previously stated in detailed regulations, however, were only generally repeated in non-binding, non-regulatory guidance.) A major change was made, however, by a provision which exempted SCE funds from the supplement, not supplant requirement. As a result of this change, federal law no longer requires that Chapter 1 eligible students, as a group or as individuals, receive a fair share, or any share, of SCE resources.

This chapter examines the relationship betweeen Chapter 1 and these three special needs programs in our seventeen sample districts. It addresses four specific questions:

- How do districts allocate state/local compensatory education funds to Chapter 1 and non-Chapter 1 schools?

- How has the Chapter 1 provision exempting SCE funds from the supplement, not supplant requirement affected district allocation policies?
- How does the location of Chapter 1 programs in schools affect the availability of programs for learning disabled and/or LEP students in Chapter 1 schools compared to non-Chapter 1 schools?
- Does the presence of programs for learning disabled and/or LEP students in a Chapter 1 building affect the level of Chapter 1 resources allocated to that school?

The chapter is divided into three sections. The first section summarizes the operation of SCE/LCE programs in the 11 sample districts with such activities, describes the way that SCE/LCE resources are allocated to schools, and examines district (and state) response to changes under Chapter 1. The second section looks at the relationship between Chapter 1 and programs for the learning disabled in our sample districts, while the third section focuses on the relationship between Chapter 1 and programs for LEP students. In the second and third sections, we describe, to the extent possible, the districts' resource allocation policies and selected measures of "cross-subsidization." It is important to note that our findings in this chapter are only suggestive. Assertions about possible "cross-subsidies" of one special need program by another cannot be proved with our data, primarily because we do not have adequate measures of need for any of these programs on a school-by-school basis.

Relationship of Chapter 1 and State/Local Compensatory Education

As discussed in Chapter 2, our sample was carefully chosen to provide districts in states offering state compensatory education programs. Specifically, four of the eight states included in the study had been providing SCE funds since 1980; a fifth state had enacted a SCE program in 1984. Ten of the seventeen districts in our sample are located in these five states. An additional district, located in a state without a SCE

program, has supported a local compensatory education program since the late 1960s.

SCE Programs in 1985-86

A broad range of SCE/LCE programs are offered in our sample districts. We have grouped these programs into three broad categories, based on their funding relationship with Chapter 1 and the populations served: (1) multi-funded programs; (2) parallel programs; and (3) discrete programs.

Multi-funded programs. Six of the eleven districts in our sample that provide SCE/LCE programs use a multi-funding model. These are programs where two or more funding sources (usually Chapter 1 and SCE) jointly fund a program serving one group of students. In a multi-funded program one cannot distinguish students by funding source in Chapter 1 schools. In many cases, the lines between resources bought by the different funding sources are also blurred. The following descriptions provide more detailed information about this approach.

State A requires districts to use SCE funds for remediation of all children scoring below a state-established cutoff on basic skills tests. Districts may set higher cutoffs to serve more students, and both of our sample districts in this state--Districts 2 and 11--do so. Students are served through a unified compensatory education program without regard to funding source. Their instructional staff are paid by Chapter 1 alone, SCE alone, or by a percentage of each. In both our districts, the Chapter 1 and SCE budgets are of about equal size.

- o District 2 uses the no-wide variance option to make all its elementary schools eligible for Chapter 1 services. The elementary program is supported by both Chapter 1 and SCE funds, using the following approach: Chapter 1 supports a pre-kindergarten program; SCE funds kindergarten aides; and compensatory education teachers in grades 1-7 are funded about 70 percent with SCE funds and 30 percent

with Chapter 1 funds. Although the high school is eligible for Chapter 1 services, the district uses only SCE funds to provide services at this school.

- In District 11, five of the eight elementary schools and the one high school are eligible for Chapter 1 services. Staff in the Chapter 1 schools are split-funded on a 50-50 basis (50 percent Chapter 1, 50 percent SCE). SCE pays all the costs of a comparable program in the non-Chapter 1 schools. Eligibility criteria for the basic skills program are identical in the Chapter 1 and non-Chapter 1 schools and the same allocation rules are used to assign compensatory education staff to both sets of schools. Roughly two-thirds of the instructional staff funded by the SCE program teach in Chapter 1 schools.

District 16 in State C also uses a multi-funded approach to serve students in Chapter 1 schools. This district has a large number of LEP students and a SCE budget that was 123 percent of its Chapter 1 budget in 1985-86. All Chapter 1 schools receive SCE funds where the combined funding sources are used to provide bilingual-based replacement basic skills programs. (Typically, compensatory education teachers in the Chapter 1 schools receive a portion of their salaries from both funding sources, although some teachers receive all of their salaries from either Chapter 1 or SCE.) In the non-Chapter 1 elementary schools, SCE teachers provide services generally similar to those in the Chapter 1 schools; we were not able to compare precisely the relative intensity of the compensatory services provided in different schools. In 1985-86, about 22 percent of the SCE budget was used for supplemental services in the Chapter 1 schools; the remainder was used for supplemental services in non-Chapter 1 elementary schools or for general aid to secondary schools.

Districts 12 and 13 in State B present a somewhat different approach to multi-funded programs. As in State A, there is no effort to separate students in the Chapter 1 schools into "Chapter 1 eligible" and "SCE eligible" students; all students below a particular cut-off are considered compensatory education students. This appears to be done at the suggestion of the state. However, in these two districts, the budgets buy separate

sets of resources, which are allocated somewhat separately across the respective sets of schools: Chapter 1 across Chapter 1 eligible schools and SCE funds across all schools.

- In District 12, the SCE program provides services to all elementary and middle schools. About 55 percent of the SCE budget is allocated to Chapter 1 schools where it funds portions of compensatory education teachers (from 0.2 to 1.0 FTE). The program funds aides (generally 1 FTE or more) in non-Chapter 1 schools. A rough measure of need is used to assign the SCE-funded teachers to Chapter 1 schools. In Chapter 1 schools, the two funding sources jointly support the "basic" compensatory reading and math program. Chapter 1 pays the full costs of the pre-kindergarten programs and the replacement programs. Students in SCE schools receive a diluted, aide-based version of the basic reading and mathematics program.

- In District 13, about two-thirds of the SCE budget is put in Chapter 1 schools. Once the decision is made about the overall proportion of the SCE budget to go into Chapter 1 versus non-Chapter 1 schools, the total compensatory education resource pool available to Chapter 1 schools is allocated roughly based on need. Chapter 1 schools are selected to receive SCE funds based on comparability needs, however. That is, a comparability estimate is prepared, and the funding source of a compensatory education teacher will be shifted to or from Chapter 1 (or from or to SCE) to demonstrate comparability in each of the Chapter 1 schools. No actual movement of staff occurs, and the SCE teachers are part of the compensatory "pool" in those schools.

District 5 is located in a non-SCE state, but has provided a locally-funded compensatory education program for nearly 20 years. At the elementary level, LCE-funded positions are spread over the schools with the largest number of students performing below the 31st percentile, the eligibility criterion for Chapter 1. The number of eligible schools is driven by the number of positions funded. Schools are ranked by educational need and served until funds run out. In Chapter 1 schools, the money is used to pay part of the salaries of the Chapter 1 reading teachers; in non-Chapter 1 schools the funds support remedial reading teachers. At the secondary level, the program supports both remedial reading and math teachers. The district does not provide Chapter 1 services at these grades. In 1985-86, the LCE program was about one-third the size of the district's

Chapter 1 allocation. Approximately one-half of the elementary school LCE instructional staff were allocated to Chapter 1 schools that year.

Parallel programs. We have used the term "parallel programs" to denote those SCE programs that provide the same kinds of services as the Chapter 1 programs but to different populations of students.

- District 4, located in State D, uses Chapter 1 and SCE funds to provide similar services--reading, mathematics and communications--in separate sets of schools. As discussed in an earlier chapter of this report, the state requires that no student receive services from more than one funding source in any subject area and that 50 percent of all elementary level SCE funds be spent in Chapter 1 eligible schools. To meet this requirement, the district deems eligible for Chapter 1 services all schools above 25 percent poverty, but serves a smaller subset (from the poorest down) with Chapter 1. This leaves a pool of unfunded, but eligible, Chapter 1 schools to receive at least 50 percent of the SCE money, plus a pool of non-eligible schools which also receive SCE funds.

- State E established a state testing program and a compensatory education program during the 1984-85 school year. The program established a state competency test for grades 3, 5 and 8 in reading and mathematics and a state funding program to provide extra aid to districts to remediate students in those grades who scored below the state-determined cut-off. State regulations allow districts to skip students receiving services from Chapter 1, special education or bilingual education. District 7 responded to these requirements by establishing a state-funded instructional program that is similar to Chapter 1: a limited pullout reading program staffed by teachers. In Chapter 1 schools, it appears that state funds are used to provide services to students closest to the state cut-off; poorer performing students participate in the Chapter 1 program. Since Chapter 1 does not support mathematics, SCE funds provide these services to all students failing the state test. The SCE allocation is 15 percent of the district's Chapter 1 allocation.

Discrete programs. The remaining three sample districts with SCE programs use these funds to support completely different programs than Chapter 1 provides. District 3, located in State D, meets the state's "fair share" requirements by using Chapter 1 funds to pay for reading teachers in Chapter 1 eligible schools and SCE funds to provide math aides in all elementary schools. The programs are kept so separate that it is not possible to determine the overlap in services to individual students.

District 15 (State C) and District 17 (State E) use their SCE funds to provide before-and-after school tutorials. Participation in these programs is voluntary and participants may include students receiving Chapter 1 services during the school day. In both districts the number of Chapter 1 students who participate in the tutorials is unknown. District 17 allocates $150 per eligible student (those failing the state minimum competency test) to each school, regardless of its Chapter 1 status. The state-funded programs in District 15 are similar in both Chapter 1 and non-Chapter 1 elementary schools.

Impact of the Change in the Supplement, Not Supplant Requirement

As discussed in the introduction to this chapter, Title I legislation required that Title I services supplement the SCE funds which Title I eligible students, as a group, were entitled to receive as their "fair share." Section 201.138 of the 1981 regulations implementing this legislation defined "fair share" in the following way. The proportion of SCE funds allocated to Title I eligible students had to be at least as great as the proportion of students eligible for SCE who lived in Title I eligible attendance areas. In other words, if 60 percent of the SCE-eligible students attended Title I eligible schools, these schools, in the aggregate, should receive at least 60 percent of the district's SCE funds (assuming other special funds, such as bilingual education dollars, are not available for the particular program contemplated).

Policymakers are concerned that elimination of this requirement from Chapter 1 will encourage districts to reallocate SCE funds in a way that denies Chapter 1 students their "fair share." We found no evidence of conscious reallocation of SCE money to non-Chapter 1 areas, but we did find some indications that, in fact, Chapter 1 eligible students in some districts may not be receiving the share of SCE services that Title I would have required.

In State E, the SCE program was enacted after Chapter 1. Thus, SCE funds never were distributed under the restrictions of Title I, and district reallocation of SCE money in response to the Chapter 1 SCE supplement, not supplant exclusion was not an issue that could arise. State officials, however, sought their SCE legislation with eyes clearly focussed on the exclusion. A draft of the proposed legislation was sent to the U.S. Department of Education (ED), with a request for assurance that funds spent under the law, if adopted, would be eligible for the exclusion. After receipt of ED's assurance and enactment of the law, a memorandum was sent from the SEA to each LEA informing them SCE funds were exempt from the supplanting prohibition if spent in accordance with the criteria governing eligibility for the exclusion.

A state official told us that nearly all LEAs in state E (though not District 17, a district in our sample) use the exclusion. Typically, the Chapter 1 eligibility cut-off score is lower than that for the SCE program. Those who qualify for Chapter 1 do not receive SCE services. All other children who score below the SCE cut-off, whether they are in Chapter 1 eligible schools or other schools, receive SCE services; and the per pupil expenditure in the SCE program is uniform throughout the district. This approach uses the waiver, since Chapter 1 students are excluded from the SCE program, and the Title I "fair share" standard is not met. Where Chapter 1 participants are excluded, distribution of a "fair share" of SCE services to the Chapter 1 eligible buildings would result in an SCE per pupil expenditure there higher than, not equal to, that in buildings ineligible for Chapter 1.

State D has had an SCE program since the days of Title I. State law always has required that a designated percentage of SCE funds be spent in

Chapter 1 eligible buildings. A state official told us that, on the whole, districts exceed this requirement, and that all districts at least meet it. Districts know of the supplement, not supplant exemption for SCE funds, this official said, but they have no occasion or inclination to use it. This conclusion, however, is subject to question.

The state official was of the opinion that the state requirement for minimum distribution of SCE funds to Chapter 1 eligible buildings "was what was required by Title I," and therefore that continued compliance with the the state requirement necessarily meant that no district could be using the exclusion now allowed by Chapter 1. The state official's premise, however, is incorrect. If in a given LEA the percentage of SCE-eligible children in Chapter 1 eligible areas exceeds the percentage distribution requirement in the state law, mere compliance with the state distribution standard would not meet the Title I "fair share" standard. An LEA which, under these conditions, merely met the state standard would be taking advantage of the supplement, not supplant exclusion allowed by Chapter 1. Further, the state official, in the context of telling us that no LEA uses the supplement, not supplant exclusion, described the current policy of one major LEA as (1) distributing SCE funds in accordance with the state minimum requirement, (2) contributing local money for compensatory education, and (3) using the combination of Chapter 1 and state and local compensatory education funds to provide all educationally deprived children, throughout the district, similar programs of remedial assistance. This, of course, describes the practice of an LEA that likely is using the exclusion; indeed, the LEA is

using the exclusion unless the intensity of service in the Chapter 1 eligible areas exceeds that in the other areas.[1]

Officials in States A and C told us that their LEAs are not allowed the use of the supplement, not supplant exclusion for SCE funds--in State A because the SEA won't allow it, and in State C because the SEA believes SCE services are "required by law" and that Chapter 1 does not allow exclusion from the supplanting prohibition of funds for mandatory SCE services. Officials in State C believe Chapter 1 services must in all cases be supplemental to SCE services, though they disagree with this approach and would like the perceived federal restriction removed.[2]

District 11 in our sample is in State A, however, and there are significant indications that District 11, consciously or not, uses the SCE exclusion and does not distribute a "fair share" of SCE money to Chapter 1 eligible students. Also, District 16 is in State C. Distict 16 uses the exclusion, since some compensatory classes are funded entirely from Chapter 1, but we were not able to determine whether the overall distribution of SCE funds meets the Title I "fair share" standard. These districts are discussed further below.

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[1] We called the LEA in question and confirmed that the intensity of compensatory service is uniform throughout the LEA. The same per pupil expenditure prevails. Compensatory service is identical; "it's the same program, just different funding sources in different parts of the city." The LEA person we spoke with, moreover, also was unaware that the LEA's practice necessarily takes advantage of the supplement, not supplant exclusion for state and local compensatory funds, and does not meet the Title I "fair share" standard. This official, like the state official, was of the opinion that the LEA's practice would have complied with Title I. Thus, incorrect understanding of Title I standards may mean that some LEAs are using the Chapter 1 exclusion and not meeting the Title I "fair share" standard, without knowing it.

[2] Our conversations with federal officials indicate State C's perception of federal law accords with ED's; one might question, however, whether this shared perception correctly interprets Congress's intent in enacting the supplement, not supplant exclusion for state and local compenstory education funds.

In State B, the SEA prohibits LEA use of the SCE supplement, not supplant exclusion, and we found no indication of LEA practices to the contrary. A state official in State B said the vast majority of LEAs in the state are unaware of the exclusion, and "frankly, [he] wants to keep it that way." In drafting a manual for LEAs summarizing the provisions of Chapter 1, the SEA deliberately excluded any mention of the exclusion. The state official said a few LEAs know of the exclusion, "but they know we won't allow them to use it."

Thus, state officials in only one of five states we contacted are aware of LEA use of the exclusion, but in three of the other states we found indications of its use. It is important to note, however, that these indications are not firm, quantitative evidence. The quantitative data collected in this study are insufficient to determine whether the districts in our sample meet the "fair share" requirements of Title I. We do not know, for example, the number of "eligible students" attending Chapter 1 and non-Chapter 1 schools in most of our sample districts. Had this question been the central focus of this study, we would have selected a different sample of districts, asked different questions, and collected different types of data. We can, however, draw some conclusions from the allocation policies in effect in our districts and from other measures of resource allocation equitability.

Two of the eleven districts in our sample with SCE/LCE programs use allocation formulas that are specifically designed to insure that students in Chapter 1 schools receive their "fair share" of SCE/LCE funds. District 5 uses a formula that relates the number of LCE-funded staff assigned to Chapter 1 elementary schools to the percentage of students in those schools who are eligible for the LCE program. District 17 allocates the same level

of resources (as measured in per-pupil expenditures) to every student eligible for state-funded remedial services, regardless of the Chapter 1 status of the school.

Two districts, 3 and 4, follow state regulations that require them to place at least 50 percent of the SCE funds in Chapter 1 eligible schools. This may or may not meet the Title I "fair share" distribution requirement, depending on whether more than 50 percent of the educationally deprived, and thus "federally eligible" children, who are also eligible for SCE, reside in Chapter 1 eligible attendance areas. We did not determine whether this is the case.

Two other districts, however, use allocation formulas that would appear to direct relatively more SCE resources to non-Chapter 1 schools. District 11 provides the same services in Chapter 1 and SCE schools to students with comparable needs. Since the district multi-funds these services in Chapter 1 schools from both Chapter 1 and SCE funds, but pays for them in SCE schools totally out of SCE funds, students in SCE schools who receive these services are getting approximately twice as much from SCE as are students in Chapter 1 schools. In District 7, since few Chapter 1 students are served by the SCE program (the state allows districts to skip students receiving similar services from other special needs programs), it is likely that Chapter 1 schools do not receive their "fair share" of these funds.

There are a number of ways that one can look quantitatively at the distribution of SCE resources across Chapter 1 versus non-Chapter 1 schools. The ideal approach is to examine the proportion of SCE resources allocated to Chapter 1 schools in relationship to the proportion of students in these schools who are eligible for SCE-funded services. These kind of data were available only in District 11. In that district, 80 percent of the eligible

students attended Chapter 1 schools, but only 67 percent of the SCE-funded instructional staff were allocated to these buildings.

A much rougher measure of "fair share" is the proportion of SCE funds allocated to Chapter 1 schools alone. In most of the districts for which data were available, at least 50 percent of the SCE/LCE resources were placed in Chapter 1 schools. If one assumes that Chapter 1 schools generally contain more needy students that non-Chapter 1 schools, then those districts which give proportionately more resources to Chapter 1 schools are ostensibly trying to provide these schools with their "fair share."

A third measure of equitability is a comparison of the relative level and type of compensatory education services provided in Chapter 1 and non-Chapter 1 schools. We computed the number of staff (and the average staff case load) in SCE only, Chapter 1 only and multi-funded schools for the eight districts with complete data and comparison sets of schools. The following patterns emerged.

In six of the eight districts, students served in non-Chapter 1 schools by SCE-funded programs receive a much less intense level of services than students served by Chapter 1 or multi-funded projects in Chapter 1 schools. This occurs for two reasons. First, SCE-funded programs may provide a different type of resource.

- Chapter 1 supports teacher-based reading services in District 3; SCE funds aide-based math programs in both Chapter 1 and non-Chapter 1 schools. The average case load for the reading program is 44:1; for the math program in Chapter 1 schools is 367:1; and for the math program in non-Chapter 1 school is 469:1.

- In District 12, the SCE program funds an aide-based reading and mathematics program in SCE schools and multi-funds a teacher and aide-based reading and math program in Chapter 1 schools. As a result, the average case load for projects in SCE schools is 200:1 compared to 73:1 for multi-funded projects in Chapter 1 schools.

- Compensatory mathematics services are funded totally by the SCE program in District 7. They are limited to students in grades 4, 6

and 9 who failed the state minimum competency test, but are available in both Chapter 1 and non-Chapter 1 schools. All SCE math services are provided by aides, while Chapter 1 reading instruction is provided by reading teachers. The average case load for SCE math is therefore considerably lower than that for the Chapter 1 reading program: 139:1 compared to 41:1.

Second, SCE may support a "watered-down" version of the Chapter 1 program in non-Chapter 1 schools. Generally this results from trying to spread fewer teachers across relatively more students.

- o District 13 allocates 4 SCE teachers to 9 non-Chapter 1 elementary schools, while 8 SCE teachers supplement services in 11 Chapter 1 elementary schools. As a result, the average case load in the non-Chapter 1 school (112:1) is considerably higher than that for multi-funded projects in Chapter 1 schools (50:1).

- o In District 5, SCE funds were used to support remedial reading teachers in 10 Chapter 1 and 10 non-Chapter 1 elementary schools. SCE reading teachers accounted for about 15 percent of the remedial reading staff in Chapter 1 schools. The average case load for remedial reading teachers in elementary schools was 66:1 in Chapter 1 only schools, 71:1 in multi-funded schools and 92:1 in SCE only schools.

- o In District 4, Chapter 1 and SCE services are placed in separate schools. Students receive reading and math services from both programs. The average caseload is lower in the Chapter 1 than in the SCE schools: 51:1 versus 67:1.

- o In District 7, SCE also supports a pullout reading program for students in grades 4, 6 and 9 who failed the state minimum competency tests. Although both Chapter 1 and SCE use reading teachers to provide compensatory reading instruction, students in the Chapter 1 program receive a much more intense level of services. The average case load for a Chapter 1 reading teacher is 41:1 compared to an average case load of 101:1 for a SCE teacher.

The two districts that use Chapter 1 and SCE funds to provide a unified compensatory education program, however, show relatively little differences in case loads between Chapter 1 and non-Chapter 1 schools.

- o In District 11, all Chapter 1 schools are multi-funded. The average case load in a Chapter 1 elementary school was 49:1 compared to an average of 43:1 in SCE schools. This reflects a practice that allocates compensatory education resources based on need, but tends to over-allocate to the least needy schools, which happen to be SCE schools.

- District 16 uses SCE funds to provide replacement bilingual programs in non-Chapter 1 elementary schools and to support similar projects in Chapter 1 schools. Students in both types of schools receive similar resources: the average case load in SCE schools is 43:1 compared to 40:1 in multi-funded Chapter 1 schools.

Summary

State and local compensatory education (SCE/LCE) funds interacted with Chapter 1 in various ways in our sample districts. Districts used SCE/LCE funds to split-fund Chapter 1 positions; to serve Chapter 1 eligible, but unserved, schools or children; to provide services in different program areas; or to provide services to Chapter 1 participants at different times of the day (e.g., tutoring before or after school). These different approaches reflected state requirements concerning the use of SCE funds; educational philosophy of the school district; the district's implementation and interpretation of state regulations; the tradition of Chapter 1 services in the district; and local program administration.

Chapter 1 eliminated the requirement in Title I that educationally deprived children (in the aggregate) residing in Chapter 1 eligible areas receive their fair share of state compensatory education funds and authorized an exclusion from the supplement, not supplant provision for state and local compensatory education funds. The one state in our sample that enacted SCE legislation after the passage of Chapter 1 designed its SCE program with the exclusion in mind. In the four states in our study that had SCE programs prior to Chapter 1, however, state Chapter 1 directors indicated that their local districts were either not allowed to use the supplement, not supplant exclusion for SCE funds or that state requirements for the distribution of SCE funds met the old Title I requirement. We found no evidence that districts consciously reallocated SCE money to non-Chapter 1 areas as a result of the change in Chapter 1. We did find some

indications, however, that Chapter 1 eligible students in some of our sample districts may not be receiving the share of SCE services that Title I would have required.

Interaction of Chapter 1 and Special Education

Within this study, our major interest in looking at the relationship of Chapter 1 and special education was to determine the extent to which the presence or absence of Chapter 1 programs in schools in a district affected the distribution of special education resources to these buildings. The time and resources allocated to this project were insufficient to track services to the school level accurately for all groups of handicapped students. Therefore, we focused on programs for learning-disabled (LD) students. We felt that any potential cross-subsidization of special education by Chapter 1, or vice versa, would occur here since the boundary between learning disabled and educationally-disadvantaged students is particularly blurred. We use three types of analysis to get at the extent of interaction between the two programs: (1) district (and school-level) policies; (2) the concentration of LD students in Chapter 1 versus non-Chapter 1 schools and the allocation of LD resources to these two types of schools; and (3) the allocation of Chapter 1 resources to schools with and without LD programs.

Administrative Policies

All of our sample districts provide services for learning disabled students. They may be provided in self-contained classrooms, in resource rooms or by an itinerant teacher in a limited pull-out setting. Given the high incidence status of LD as a handicapping condition, services for such students are usually offered in many schools in each of our districts.

Chapter 1 and special education appear to operate quite independently in 16 of our 17 sample districts. For example, in one district, special

education is administered by a multi-district cooperative, while Chapter 1 is administered separately by each participating member school district. In another case, special education is administered by sub-district administrative units, while Chapter 1 is administered from the central offices of the school district. In most other districts in our sample, the Chapter 1 and special education directors are on the same organizational level, but there is little coordination between their offices. In one case, however, the Chapter 1 director also administers the special education program. In this district, the director is developing a concept called "blended services," where the needs of all low-achieving students are considered simultaneously, and the total sources of funds available--regular, special education, Chapter 1 and SCE--are considered in assigning students to programmed services.

This administrative isolation of the two programs is reflected in the assignment of LD and Chapter 1 programs to schools. We did not find any evidence of deliberate overlap or non-overlap of Chapter 1 with LD schools, except in cases where facilities are too crowded to allow the small class size or group size required by one or the other of these programs. For example, in District 5, if a school does not have enough space to house both programs, preference will be given to the Chapter 1 program.

There also is little coordination between the programs in the assignment of services to students, reflecting the strict state and federal guidelines that districts must follow in classifying special education students. Staff in a few districts mentioned that they use Chapter 1 for pre-referral placement and/or for phasing-out services. And several special education directors said that staff are encouraged to look for alternatives to special education if these services are appropriate to the needs of the

student. However, most emphasized the different screening procedures used by the two programs (e.g., use of different achievement tests; a distinction between skill deficits and process difficulties; etc.).

Distribution of LD Students/Resources by Chapter 1 School Status

We developed a few quantitative measures of whether the presence of a Chapter 1 program was affecting the provision of special education services to learning disabled students in our sample districts. We collected data on the number of LD students served in Chapter 1 and non-Chapter 1 schools and the number of staff assigned to this program by school. It is important to note, however, that these data are not comparable across school districts. Districts may use different criteria for classifying LD students, and do use different levels and types of resources to serve them (e.g., different mix of self-contained, resource room and itinerant teachers; different case load maximums, etc.) In addition, in one district, our count of special education personnel serving LD students includes only staff in self-contained classrooms, not resource room staff.

Our analysis is also limited because we do not have a measure of need for LD services in the schools. Unlike Chapter 1, where one could make an assumption that all students scoring below a certain cutoff are in need of remedial services, the process of identifying LD students is a complex one that includes a multitude of measures. Therefore, we must assume that the needs of LD students are being met through the special education program if the percentage of students receiving LD services in a Chapter 1 school is at least as great as the concentration of such students in non-Chapter 1 buildings.

Our findings are summarized in Table 7-1 for elementary schools in the 12 districts for which we had data and where we had a comparison group of

Chapter 1 and non-Chapter 1 schools. (We limited our analysis to elementary schools since many of our districts provide Chapter 1 services only at this grade span.) We found a mixed picture across these districts. The average number of LD students in Chapter 1 schools was larger than the number in non-Chapter 1 schools in five districts, was approximately the same in two districts, and was lower in the remaining five communities. When we look at the concentration of LD students (that is, the number of LD students as a percent of total school enrollment), we find a similar pattern. The concentration was higher in Chapter 1 schools in four districts, approximately the same in three districts, and lower in five.

We cannot assume from these data, however, that the lower concentration of LD students in Chapter 1 schools is due to the presence of the Chapter 1 program. For example, the concentration of LD students is considerably lower in Chapter 1 schools in District 11: 6.7 versus 10.8 percent. Yet, the district provides remedial services to all elementary school students below the 50th percentile through a multi-funded, unified compensatory education program. Similarly, District 3 has a policy of "blending services;" that is, focusing on the needs of students, rather than on funding sources, in making assessment and placement decisions. The compensatory education program serves from the 25th percentile down until they reach a level where special education takes over. One would assume that the availability of remedial services in Chapter 1 schools would considerably depress the number and concentration of LD students in these buildings. Yet, these figures are nearly identical for Chapter 1 and non-Chapter 1 elementary schools in the district.

Another area we looked at was the allocation of LD resources to Chapter 1 and non-Chapter 1 schools. Table 7-1 shows that resources were

Table 7-1

Distribution of LD Students and Resources by Chapter 1 - Non-Chapter 1 School Status

District	Average Number of LD Students Served		Concentration of LD Students		Average LD Staff Case Load	
	Chpt 1	Non-Chpt 1	Chpt 1	Non-Chpt 1	Chpt 1	Non-Chpt 1
1	12	7	4.2%	2.8%	11:1	12:1
2	———	All schools receive Chapter 1			———	
3	10	9	2.7	3.0	15:1	19:1
4	25	16	6.4	4.9	22:1	19:1
5	27	22	7.4	5.9	12:1	11:1
7	19	30	3.8	6.2	10:1	11:1
8	———	All schools receive Chapter 1			———	
9	29	17	6.5	4.3	13:1	14:1
11	35	31	6.7	10.8	10:1	19:1
12	16	20	4.8	5.6	18:1	13:1
13	19	24	5.0	6.7	10:1	13:1
14	16	18	5.3	5.7	M	M
15	38	46	6.9	8.0	21:1	23:1
17	26	45	4.7	7.7	10:1*	13:1*

M = Missing data

* Does not include resource room staff

allocated in a way that led to relatively similar average case loads in the two types of schools. This probably reflects strict district (and/or state) requirements concerning maximum case loads for LD teachers and aides. The average LD case load ranged from 11 to 22, far lower than the average case load for a Chapter 1 teacher in any of our districts.

Distribution of Chapter 1 Resources by LD Status of Chapter 1 Schools

We were also interested in examining whether the allocation of Chapter 1 resources to participating schools was affected by the presence or absence of programs for LD students. One could hypothesize that districts would allocate relatively fewer Chapter 1 resources to those schools that have LD teachers and aides, expecting some spillover in resources from the LD to the Chapter 1 program.

Table 7-2 shows the average case load for Chapter 1 staff in Chapter 1 elementary schools with and without LD programs in the 14 sample districts with information on the LD status of Chapter 1 schools. In seven of these districts, all Chapter 1 schools have LD programs. Of the remaining seven districts, the average Chapter 1 staff ratio in schools with LD services is lower in five districts, the same in one district and higher in one district. This finding generally holds true for teachers and aides, as well as total staff. Thus it appears that the LD program is not influencing the allocation of Chapter 1 resources to Chapter 1 schools. In fact, Chapter 1 schools with this additional program are more likely to have relatively more resources with which to serve their Chapter 1 participants.

Interaction of Chapter 1 and Programs for LEP Students

An examination of the interaction of Chapter 1 and programs for LEP students is complicated by (1) having fewer districts in our sample that provide programs for LEP students and (2) the fact that districts can, and

Table 7-2

Distribution of Chapter 1 Resources
by LD Status of Chapter 1 Schools

	Average Chapter 1 Staff Case Load					
	Teachers		Aides		Total Staff	
District	With LD	W/O LD	With LD	W/O LD	With LD	W/O LD
1	40	n.a.	—	—	40	n.a.
2	45	n.a.	51	n.a.	33	n.a.
3	53	72	62	90	39	55
4	87	n.a.	53	n.a.	47	n.a.
5	124	137	85	107	76	86
7	52	50	48	51	36	35
8	41	n.a.	—	—	41	n.a.
9	78	104	86	91	66	71
11	68	n.a.	75	n.a.	49	n.a.
12	114	169	50	28	62	48
13	50	50	116	110	41	46
14	85	n.a.	206	n.a.	74	n.a.
15	236	n.a.	42	n.a.	71	n.a.
17	226	220	66	84	91	108

do, use Chapter 1 funds to provide bilingual/ESL services to students. This section starts with an overview of the role of Chapter 1 in supporting the bilingual/ESL services provided in our sample districts. It then looks at the distribution of bilingual/ESL resources to Chapter 1 and non-Chapter 1 schools and finally at the distribution of Chapter 1 resources across Chapter 1 schools with and without programs for LEP students.

Programs for LEP Students

Three of our sample districts--6, 8 and 10-- have no bilingual/ESL programs. Those districts that serve LEP students take one of three approaches in using Chapter 1 resources to support these services: (1) Chapter 1 supports all bilingual/ESL activities in Chapter 1 schools; (2) Chapter 1 supports some parts of the program for LEP students; or (3) bilingual/ESL services are supported totally by local and/or state funds.

Districts 7 and 16 commit a large portion of their Chapter 1 funds to bilingual education. In District 7, all bilingual services are split-funded by Chapter 1 and local funds. There are no programs for LEP students in non-Chapter 1 schools. In District 16, Chapter 1, SCE and local funds provide an intensive basic skills bilingual replacement program in the Chapter 1 schools. A comparable program is provided in non-Chapter 1 schools using SCE and local funds.

Districts 2, 12, and 17 use Chapter 1 funds to support part of their bilingual/ESL programs. In District 2, the one bilingual education teacher at the elementary school level is funded 50/50 by Chapter 1 and state bilingual education money. ESL services are provided with state and local funds at the middle and high school. In District 12, Chapter 1 funds support some of the bilingual education aides. The other staff are funded by state and local dollars. District 17's Chapter 1 and local funds

pay for the ESOL program in some Chapter 1 schools. Local funds support the ESOL program in other Chapter 1 schools and in non-Chapter 1 schools and the bilingual education program in both types of buildings.

The remaining nine districts use state and/or local funds to support bilingual/ESL programs. These are generally districts with relatively few LEP students and a program concentrated in a limited number of schools. For example, services are limited to one school per grade span in District 3; to four out of 40 elementary schools and four out of nine secondary schools in District 12; and to one ESOL center in District 14. In District 1, the bilingual/ESL program serves 73 students across 13 schools through a tutoring program. In District 4, however, the decision not to use Chapter 1 funds in the bilingual/ESL program is an extension of the Chapter 1 director's belief that it is illegal to provide Chapter 1 services to LEP students.

Distribution of Bilingual/ESL Participants and Resources by Chapter 1 School Status

We could examine the distribution of non-Chapter 1 bilingual/ESL participants and resources across Chapter 1 and non-Chapter 1 schools in only six of our districts. Of the 14 districts serving LEP students, four do not place services in non-Chapter 1 elementary schools and four have insufficient data for the analysis (due generally to the small size of their bilingual/ESL programs.) The average number of non-Chapter 1 bilingual/ESL participants in Chapter 1 schools is larger in three of the six remaining districts, about the same in two and smaller in one. (See Table 7-3.) One finds somewhat the same pattern for concentration of students: higher in Chapter 1 schools in three districts, comparable in one and smaller in two. This is not a surprising finding since LEP students often reside in the lower-income attendance areas in school districts.

Table 7-3

Distribution of Non-Chapter 1 Bilingual/ESL Participants and Resources by Chapter 1 - Non-Chapter 1 School Status

District	Average Number of Biling/ESL Participants		Concentration of Biling/ESL Participants		Average Biling/ESL Staff Case Load	
	Chpt 1	Non-Chpt 1	Chpt 1	Non-Chpt 1	Chpt 1	Non-Chpt 1
1	------ Insufficient data ------					
2	------ All schools receive Chapter 1------					
3	------ Insufficient data------					
4	63	55	16.3%	14.4%	32:1	23:1
5	------ All schools receive Chapter 1 -----					
7	------ All schools receive Chapter 1 ----					
9	27	24	6.6	6.0	21:1	18:1
11	50	13	8.7	4.0	13:1	11:1
12*	47	53	11.4	19.5	26:1	19:1
13	27	26	6.2	7.1	95:1	110:1
14	------ Insufficient data ------					
15	------ All schools receive Chapter 1 -----					
16	------ Insufficient data ------					
17	108	31	12.7	5.8	38:1	28:1

* Student counts and staff include those funded by Chapter 1 as well as state/local funds.

In one-half the districts, bilingual/ESL participants in Chapter 1 schools receive somewhat less intense programs, as measured by average staff case loads, while in three resource allocation is more even across the types of schools. This situation may be related to the larger numbers, or higher concentrations of participants, in Chapter 1 schools. In any case, the disparities in case loads for staff of bilingual/ESL programs are considerably smaller than those found generally for the Chapter 1 program.

Distribution of Chapter 1 Resources by Bilingual/ESL Status of Chapter 1 Schools

Our final analysis examines whether the presence of bilingual/ESL programs in a Chapter 1 school affects the allocation of Chapter 1 resources to that building. Table 7-4 shows the average case load for Chapter 1 staff in Chapter 1 elementary schools with and without bilingual/ESL programs in the seven sample districts with sufficient information and a comparison group of schools. The average Chapter 1 case load is lower in Chapter 1 schools with bilingual/ESL programs in four districts, relatively similar in two districts and higher in one.

Summary

This chapter examined the relationship between Chapter 1 and three other special needs programs--state/local compensatory education, programs for the learning disabled (LD) and programs for students with limited English proficiency (LEP)--in our sample districts. Eleven of our 17 sample districts have state/local compensatory education programs; in 9 of these 11 districts, SCE programs directly or indirectly influence the allocation of Chapter 1 resources. In the six districts with multi-funded programs (where Chapter 1 and SCE/LCE jointly fund a program serving Chapter 1 eligible students), SCE enables the districts to expand either the breadth or intensity of services to Chapter 1 students. Three other

Table 7-4

Distribution of Chapter 1 Resources by
Bilingual/ESL Status of Chapter 1 Schools

	Average Chapter 1 Staff Case Load	
District	With Bilingual/ESL	Without Bilingual/ESL
1	——— Insufficient data ———	
2	——— Insufficient data ———	
3	34:1	46:1
4	54:1	45:1
5	84:1	81:1
7	——— All bilingual/ESL schools ———	
9	61:1	72:1
11	——— All bilingual/ESL schools ———	
12	43:1	65:1
13	41:1	49:1
14	——— Insufficient data ———	
15	——— All bilingual/ESL schools ———	
16	——— Insufficient data ———	
17	94:1	91:1

districts respond to state SCE requirements or guidelines by restricting the number of eligible schools or program areas served by Chapter 1. While most of the districts in our sample place at least half of their SCE resources in Chapter 1 schools, we found indications that Chapter 1 eligible students in some of these districts may not be receiving the "fair share" of SCE services that would have been required under Title I.

All of our sample districts provide services for LD students and in 16 of the 17 districts, Chapter 1 and special education are administered quite independently. We did not find any evidence of deliberate overlap or non-overlap of Chapter 1 with LD schools and there was little coordination between the programs in the assignment of services to students. It appears that few LD students in our sample districts receive Chapter 1 services. As a result, districts are able to spread Chapter 1 services to higher-achieving students than would otherwise be possible. Districts in our sample with large numbers of LEP students tended to include bilingual and/or ESL components in their Chapter 1 programs in conjunction with their local programs.

The concentration of LD and bilingual/ESL participants in Chapter 1 schools in our sample is generally comparable to that in non-Chapter 1 schools, leading us to conclude that the districts in our sample do not use Chapter 1 funds to subsidize services to these two special needs populations. Conversely, the concentration of Chapter 1 students is generally the same in schools with and without these programs.

CHAPTER 8

SUMMARY OF FINDINGS AND IMPLICATIONS FOR FEDERAL POLICY

This study used data collected from seventeen school districts throughout the country to examine how school districts allocate Chapter 1 resources to participating schools and students; the factors that affect resource allocation decisions and that explain variations in the actual allocation of Chapter 1 resources across school districts and across schools within school districts; and the impact of changes in federal law and in Chapter 1 allocations on resource allocation policies and practices. This Chapter summarizes the findings presented throughout this report and discusses the implications of these findings for federal policy.

Since our sites are generally larger and poorer than the average school district, caution must be exercised in generalizing from these findings to all school districts that participate in Chapter 1. The sample is diverse enough, however, to allow generalizations about how and why districts make certain kinds of resource allocation decisions and the factors that explain resource allocation outcomes across and within districts.

Summary of Findings

The major finding of this study is that our sample of districts exhibit a wide range in the breadth and intensity of the Chapter 1 services that they provide and exhibit considerable variety in the way they allocate Chapter 1 resources to participting schools and students. This variability is the result of complex decisionmaking processes that base resource allocation decisions on a number of different factors: the goals and objectives of the school district concerning the appropriate scope, intensity and design of Chapter 1 instructional programs; the level and type

of educational needs of the students; the size of the Chapter 1 budget and the availability of other sources of compensatory education funds, such as state compensatory education aid; the way the states administer the Chapter 1 and state compensatory education programs; and state educational mandates, such as requiring the provision of pre-kindergarten services or compensatory education services to students who fail state minimum competency tests.

This section summarizes more specific findings presented in Chapters 3 through 7 of this report. A general summary is presented in Chapter 1.

Budget Composition

The districts in our sample allocated between 66 and 96 percent of their Chapter 1 budgets to direct instructional services, with half spending between 80 and 85 percent of their funds in this area. The remaining funds supported program administration, supplies and equipment, support services, community services (such as parent advisory councils), and indirect costs. Variation in spending patterns could be attributed to differences in the size of each district's Chapter 1 budget, program design, educational philosophy and the administrative structure of its Chapter 1 program.

Changes in the level of Chapter 1 allocations generally had little impact on the allocation of resources across budget categories. More than half of our sample districts made only marginal changes in the percent of resources allocated to instructional and administrative activities between 1980-81 and 1985-86.

Districts in our sample used carryover funds to maintain stability in their Chapter 1 programs in times of both increases and decreases in allocations.

State regulations and guidelines concerning the level of carryover, the size of allocation changes and district responses to substantial increases

in Chapter 1 and state compensatory education funding are all factors that appear to explain the level of carryover found in these districts.

Breadth and Intensity of Chapter 1 Services

School districts in our sample had different goals and objectives concerning the appropriate scope, intensity and design of Chapter 1 instructional programs. Relative to each other, nine of 17 sample districts designed programs providing intensive services to a limited number of participants. Another district chose to provide less intense services to a higher percentage of the eligible schools and students, three districts served small percentages of students with limited intensity, and three more were able to provide intense services to a relatively large number of students. These variations are explained by a number of factors, including differences in educational philosophy, district demographics and the availability of state compensatory education funds.

When faced with reductions in their Chapter 1 allocations, all but one district in our sample acted to maintain the integrity and intensity of their core instructional programs. Districts responded to these cuts by dropping support services, cutting the time of instructional aides and, if necessary, by reducing the number of students and/or schools served. The districts in our sample with relatively intense programs tended to use new Chapter 1 dollars to increase program breadth. Districts that already served a large percentage of their eligible students used increased allocations to increase program intensity.

Allocation of Resources to Chapter 1 Schools

The districts in our sample use a variety of rules to allocate Chapter 1 resources to participating schools, including uniform allocations to each building (e.g., one teacher and/or aide per school), allocations

based on the number of low-achieving students in a building (e.g., one Chapter 1 teacher for every 40 low-achievers), and allocations based on the relative size and/or poverty of the student body in the building. Some of these districts allocate instructional staff directly to buildings and some allocate Chapter 1 projects (which bring with them configurations of staff). Still others allocate resources expressed in one unit (e.g., teachers or dollars), but allow schools to substitute resources of equivalant value (e.g., a greater number of aides).

Most of our sample districts allocate instructional resources to schools in rough proportion to the number of Chapter 1 participants or Chapter 1 eligible students in each school, often taking into consideration the number of subject areas each student needed services in. None appear to incorporate the degree of individual student need into their Chapter 1 resource allocation policies (e.g., provide more intensive resources to students who score the lowest on achievement tests). Materials and supplies are generally allocated on a per pupil basis.

The inclusion of educational need in a district's Chapter 1 allocation rules does not necessarily yield a comparable level of services or similar Chapter 1 per pupil expenditures across participating schools. We found a wide range in the average staff case load and in per pupil expenditures across schools in 13 of our 17 sample districts. These variations tended to be randomly related to poverty, achievement and the concentration of Chapter 1 students. Four factors appear to explain the relationship between the actual distribution of Chapter 1 resources and the educational and economic characteristics of participating schools: (1) the extent to which a need measure is embodied in a district's allocation formula; (2) the relationship of the need measure used and the actual building-level need;

(3) the differential accretion across schools of Chapter 1 projects that uses different resource allocation rules; and (4) the extent of building-level discretion in allocating Chapter 1 resources within the schools.

Allocation of Chapter 1 Resources to Private School Students

The Supreme Court's decision in Aguilar v. Felton changed or eliminated services to private school students in 10 of our 17 sample districts. Private schools in two districts withdrew from participation in the Chapter 1 program; two temporarily suspended services to private school students, transferring the Chapter 1 staff to public schools while alternative arrangements were planned; and six changed the way they provided services.

The impact of these changes on private school student participation and resource allocation was mixed. The districts in our sample that chose to serve private school students in public schools were more likely to have seen a reduction in the number of private school participants than were districts that chose to provide services to private school students in vans located on the site of the private schools or through the use of computer-assisted instruction (CAI) located in the private schools of students' homes. Districts in our sample that used private school allocations to purchase (or lease) CAI systems offset the additional costs by eliminating or reducing the number of instructional staff serving private school students. The districts that purchased or leased mobile vans and/or transported students to public schools or neutral sites took these costs "off the top" of their Chapter 1 budgets before allocating funds or services to public and private school students.

The districts in our sample that served private school students in 1985-86 used a variety of approaches in allocating Chapter 1 resources to

private school students: teacher case load, equal expenditures per pupil, and non-personnel services, such as CAI systems. Participating Chapter 1 private and public school students in our sample districts received roughly comparable levels of services when measured as average staff case load or average per pupil expenditures.

Relationship of Chapter 1 to Other Special Needs Programs

State and local compensatory education (SCE/LCE) funds interacted with Chapter 1 in various ways in our sample districts. Districts used SCE/LCE funds to split-fund Chapter 1 positions; to serve Chapter 1 eligible, but unserved, schools or children; to provide services in different program areas; or to provide services to Chapter 1 participants at different times of the day (e.g., tutoring before or after school). These different approaches reflected state requirements concerning the use of SCE funds; educational philosophy of the school district; the district's implementation and interpretation of state regulations; the tradition of Chapter 1 services in the district; and local program administration.

We found no evidence that districts consciously reallocated SCE money to non-Chapter 1 areas after Chapter 1 authorized an exclusion from the supplement, not supplant provision for state and local compensatory education funds. We did find some indications, however, that Chapter 1 eligible students in some of our sample districts may not be receiving the share of SCE services that Title I would have required.

The districts in our sample differed in where they placed other special needs services (e.g., programs for the learning disabled (LD) and programs for students who have limited English Proficiency (LEP)) and in their policies concerning the provision of Chapter 1 services to students served by other programs. It appears that few LD students receive Chapter 1

services. As a result, districts are able to spread Chapter 1 services to higher-achieving students than would otherwise be possible. Districts with large numbers of LEP students tended to include bilingual and/or ESL components in their Chapter 1 programs in conjunction with their local programs. The concentration of LD and bilingual/ESL participants in Chapter 1 schools is generally comparable to that in non-Chapter 1 schools, leading us to conclude that the districts in our sample do not use Chapter 1 funds to subsidize services to these two special needs populations. Conversely, the concentration of Chapter 1 students is generally the same in schools with and without bilingual/ESL programs.

Implications of These Findings for Federal Policy

Under Chapter 1, school districts have a great deal of discretion in how they allocate federal compensatory education resources. This discretion has resulted in a wide range in the breadth and intensity of Chapter 1 services across school disticts and a great deal of variation in how districts allocate resources to participating schools and students. Policymakers have expressed concern about this variation and its impact on the delivery of services to Chapter 1 participants. The findings from this study provide four lessons for policymakers interested in addressing these variations.

Lesson #1

Variations in program intensity among districts are caused in part by differences in program design (e.g., different staffing mixes, case loads, settings, etc.) and in part by the increasing variety and complexity of Chapter 1 programs in operation throughout the country. In our sample of districts, the range in intensity of reading services is narrower than the range in intensity generally for the districts' overall Chapter 1 program.

This is because the Chapter 1 program has developed into more than just a reading program.

As the Title I program grew, districts expanded their programs in different ways. Many added mathematics as a subject area. Some extended the program into secondary schools. Others retained an early intervention focus by adding services first for kindergarten and then for pre-kindergarten students. Districts with large concentrations of students with limited English proficiency added bilingual/ESOL components to their Chapter 1 programs, especially as alternative funding sources, such as Title VII, ended. The replacement option is used to limit the disruptiveness of pullout programs and to integrate Chapter 1 programmatically with the district's regular reading and math program.

These newer projects brought with them different configurations of staff. While Chapter 1 generally provides aides in kindergarten programs, pre-kindergarten, bilingual/ESL and replacement programs use teachers in small classroom settings. As they examine differences in per pupil expenditures across districts, policymakers must be sensitive to the fact that Chapter 1 is no longer one program, but hundreds of different programs designed to meet the needs of individual school districts.

Lesson #2

Policymakers cannot discuss differences in the breadth and intensity of Chapter 1 services among districts without considering the impact of state and local compensatory education services on the allocation of Chapter 1 resources. Districts in our sample that received state compensatory education aid generally used these funds to extend the range and/or to increase the intensity of compensatory education services. Some districts increased the number of staff serving Chapter 1 students by split-funding

the salaries of these teachers. Other districts focused Chapter 1 resources more intensively on a limited number of schools or a particular subject area (e.g., reading), because SCE dollars were available to support programs in other buildings or other subjects. When districts used SCE resources for parallel or discrete programs, however, the intensity of SCE services was generally much lower than that found in the Chapter 1 program or in a program funded jointly by Chapter 1 and SCE.

The SCE "exclusion" waiver in Chapter 1 did not lead to a conscious reallocation of SCE dollars away from Chapter 1 attendance areas in our sample of districts, although we found some indications that Chapter 1 students in some of our districts may not be receiving their "fair share" of SCE services. This behavior can be explained by a number of factors, including the policies of state Chapter 1 offices, a high level of educational need in Chapter 1 attendance areas and the commitment of local administrators to provide Chapter 1 students with what they perceived to be their "fair share" of SCE resources.

Experiences in our districts point to two different directions that districts might take in the future, however. The waiver could encourage districts to make greater use of unified compensatory education programs, where students in need of remediation would receive comparable levels of service regardless of the Chapter 1 status of their school. While this approach might not meet the "fair share" requirement of Title I in most districts (since SCE would pay for all services in non-Chapter 1 schools and only part of a comparable level of services in Chapter 1 schools), Chapter 1 schools would receive a substantial portion of SCE dollars. Or, the waiver could lead districts to exempt Chapter 1 participants from participation in SCE-funded programs, resulting in a situation where Chapter 1 attendance areas would receive few SCE resources.

Lesson #3

The districts we studied did not drop or modify the use of need criteria in their subdistrict resource allocation formulas after the "number and needs" provision was dropped from federal law. The use of these criteria alone, however, did not insure an equitable distribution of Chapter 1 resources across participating schools in our sample of districts.

Equitable allocations of Chapter 1 staff can occur only if the following conditions are met in a district: (1) Chapter 1 projects are allocated based on the relative need of Chapter 1 schools; (2) Chapter 1 staff are allocated within projects in fractions of FTEs and in direct proportion to the number of eligible students; (3) the measure of need used in the allocation rule is the same, or close to, the measure used to select students; (4) staff allocations are based on duplicated, not unduplicated, counts of students; and (5) schools adhere to strict case loads. Few districts can, or are willing, to meet these criteria, however. In addition, policymakers must be sensitive to the differential staffing patterns of Chapter 1 projects and the different mix of these projects across schools when evaluating the equity of Chapter 1 resource allocations within districts.

Lesson #4

One cannot generalize about the impact of changes in Chapter 1 allocations on the breadth and intensity of Chapter 1 services across school districts. District responses reflected a number of factors, including the existing scope and level of services, availability of carryover funds, and extent of budget cuts in the past. When allocations were cut in the early 1980s, the districts in our sample acted to protect the intensity and integrity of their core instructional programs by eliminating support services, reducing services at the secondary level and reducing the number

of students served. When allocations were increased in the years that followed, districts did not necessarily restore lost services. Some responded to changing educational demands by redirecting services from the secondary to the pre-school level or by intensifying services at the elementary school level.

Districts may face a different set of tradeoffs, however, if Chapter 1 allocations are reduced in the late 1980s. First, districts in some states are under pressure to reduce the level of Chapter 1 funds they carry over from one fiscal year to the next. This restriction will limit the ability of districts to use carryover funds to stabilize programs in years when allocations are cut. Second, since many districts cut most of their supplemental services during the budget cuts of the early 1980s, they may no longer have the option of saving money by eliminating support services and will have to cut parts of their core instructional program.

Third, as districts expand the number of staff-intensive Chapter 1 projects (e.g., pre-kindergarten, bilingual/ESL, basic skills replacement programs), they must reconsider what comprises the core instructional program. Reducing program services will no longer be just a matter of lowering eligibility scores by a few percentage points, or of eliminating services to the one or two schools just above the average poverty level. Rather, districts will have to make tradeoffs among different types of instructional programs: pre-kindergarten versus elementary; replacement programs versus the less costly pullout or in-class program designs; reading or math versus bilingual/ESL. Since districts with larger programs will be more likely to face these dilemmas, we may come to see different responses to allocation cuts across districts, responses based as much on the relative size and complexity of a district's Chapter 1 program as on the relative size of the budget cuts.

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APPENDIX A: METHODOLOGY

The data on which this report is based were collected by five teams of data analysts in seventeen school districts during the spring semester of the 1985-86 academic year. The seventeen school districts were chosen to represent a wide range of Chapter 1 environments. The sample included school districts ranging in size from those which were very small to those which were very large. It was also assured that the sample included some LEA's in which state or local compensatory education programs were operating. The data were collected independently from each district. However, every effort was made to make data from each district compatible with all other districts. Included in such efforts were frequent debriefing sessions which were held among the site visit teams in an attempt to arrive at consistency and compatibility across data collection sites.

Each site visit team made use of several sources of data within their respective districts. These included: (1) interviews with key LEA officials (including the Chapter 1 coordinator), (2) interviews with selected building principals, and (3) extensive use of archival data (including student achievement records, student poverty records, Chapter 1 program records, and general budgetary information). These data were then gathered into a series of integrated computer files comprising the database for each school district. The complement of all seventeen district databases formed the complete set of data on which this report is based.

Data Collected

In an effort to document changes in resource allocation patterns in individual districts over time, data were collected for three different academic years (1980-81, 1982-83, 1985-86). However, efforts were made to collect more extensive data for the most recent (1985-86) school year. The

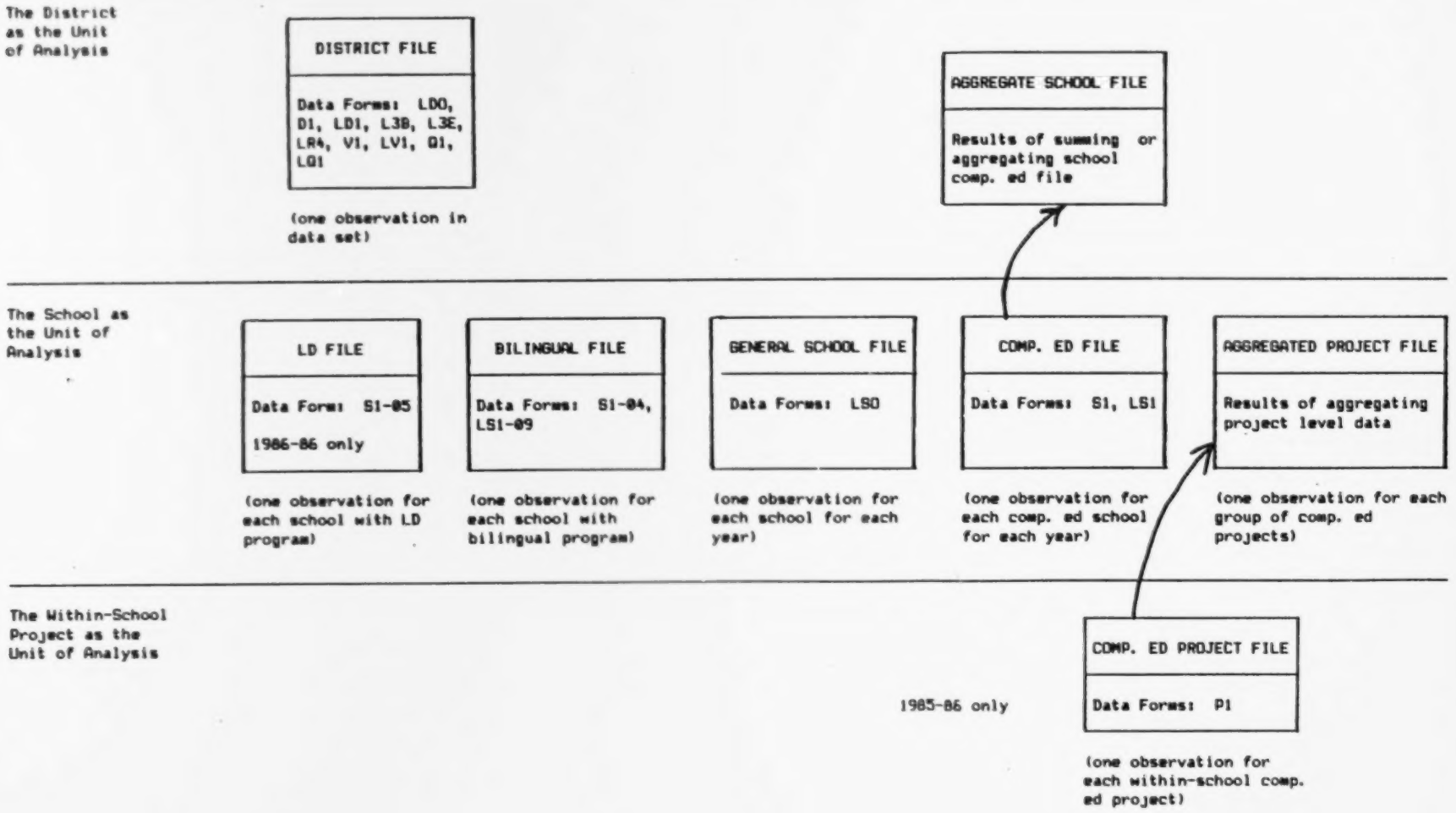
data for the most recent year included information about the district as a whole and about district-wide programs, as well as data about each school in the district. Additionally, and only for the most recent year, data were collected for each within-school compensatory education project. For the two previous years only district level and school level data were collected.

Data Structure

A very important concept in any analysis of data is "the unit of analysis" or "the observational unit". The unit of analysis is the object about which a datum offers a description. It is extremely important that the unit of analysis be clearly defined and understood. The majority of educational research studies generally focus upon only one unit of analyses at a time. This may be a student, a classroom, a school building, or perhaps a district wide program. Unlike most of these studies, the current research analyzes several units of analysis concomitantly. Data were collected describing not only general district characteristics and district-wide programs, but also describing school characteristics and school level programs, and describing the within-school compensatory education projects. The resulting data structure is quite complex and care must be taken not to impute characteristics describing one unit of analysis to units on other levels.

Figure A-1 below details the various data files employed in this study, the unit of analysis each describes, and the data collection instruments on which they were based. It is always important to be cognizant of the unit of analysis about which particular observations are made — for relationships which may exist for one unit of analysis can very likely adopt a completely different form for another unit of analysis. For example, it is possible that in a particular district the number of teachers allocated to a school exhibits

FIGURE A-1: The Structure of the Data for Each of the Seventeen School Districts


The District as the Unit of Analysis
DISTRICT FILE
Data Forms: LD0, D1, LD1, L3B, L3E, LR4, V1, LV1, Q1, LQ1
(one observation in data set)
AGGREGATE SCHOOL FILE
Results of summing or aggregating school comp. ed file
The School as the Unit of Analysis
LD FILE
Data Form: S1-05
1986-86 only
(one observation for each school with LD program)
BILINGUAL FILE
Data Forms: S1-04, LS1-09
(one observation for each school with bilingual program)
GENERAL SCHOOL FILE
Data Forms: LS0
(one observation for each school for each year)
COMP. ED FILE
Data Forms: S1, LS1
(one observation for each comp. ed school for each year)
AGGREGATED PROJECT FILE
Results of aggregating project level data
(one observation for each group of comp. ed projects)
The Within-School Project as the Unit of Analysis
1985-86 only
COMP. ED PROJECT FILE
Data Forms: P1
(one observation for each within-school comp. ed project)

no association with the average achievement level of Chapter 1 participants in that school, yet at the project level there exists a strong positive correlation.[1]

Variables

An effort was made to define and calculate variables for each of the seventeen school districts in a consistent manner. However, unique conditions in some LEA's demanded deviations from this rule. Exceptions to standard variable constructions are noted in the text of this report and in the accompanying case studies. Table A-1 describes the most important variables used in the analysis for this report, their sources, and the unit(s) of analysis that each describes.

Multi-Funding

Some local education agencies operate both a Chapter 1 program and a state or local compensatory program within a single school. Some of these projects are partially funded by Chapter 1 and partially funded by the state or local compensatory education programs. These projects, and only these projects, were labeled as multi-funded projects. All others were labeled as either Chapter 1 or state or local compensatory education.

However, the criteria for characterizing a school as multi-funded is not quite as restrictive. If either or both of the following criteria were met the school was considered a multi-funded school: (a) a multi-funded project was operating within the school, or (b) if independent projects from two different compensatory education funding sources were operating within the same school. The consequence of such a categorization is that state or local

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[1]This can occur as a consequence of a variety of reasons, perhaps the most common being the disproportionate weighting of some projects in these school totals.

Table A-1

Important Variables Used in Analysis

Variable	Definition	Unit(s)	Source
"TEACHER"	FTE teachers allocated to an educational unit	Project, School, District	PI, LSI (computed)
"AIDE"	FTE aide allocated to an educational unit	Project, School, District	PI, LSI (computed)
"STAFF"	(TEACHER + (.4) AIDE)	Project, School	TEACHER and AIDE variables
"PROGRAM"	Compensatory education type 1 = Chapter 1 2 = SCE/LCE 3 = Multifunded	Project	PI
"PROGRAM"	Compensatory education type 1 = Chapter 1 2 = SCE/LCE 3 = Multifunded 9 = Not a comp ed school -- considered a multi-funded school if school has a multi-funded project or has both Chapter 1 and SCE projects--	School	SI, LSI
DUPLICATED COUNT "TOTB"	Total count of students in a compensatory education program, counting a student once for each project he attends; head count, not FTE.	Project, School, District	LSI, Aggregated PI, DI
UNDUPLICATED COUNT "TOTA"	Total count of students in a compensatory education program, counting a student only once; head count, not FTE.	Project, School, District	LSI, SI, PI, DI
STUDENT-TEACHER RATIO "ST.RATIO"	Ratio of duplicated count to FTE teachers.	Project, School	Calculated from TEACHER, TOTB
STUDENT-AIDE RATIO "SA.RATIO"	Ratio of duplicated count to FTE aides.	Project, School	Calculated from AIDE, TOTB
STUDENT-STAFF RATIO "STAFF.R"	Ratio of duplicated count to calculated variable, "STAFF".	Project, School	Calculated from STAFF, TOTB
PROJECT SUBJECT "SUBJECT"	1 = reading, 2 = math, 3 = Bi/ESL, 4 = other, 0 = PK, K, no subj. coded	Project	PI

Table A-1 (continued)

Variable	Definition	Unit(s)	Source
GRADE SPAN OF PROJECT "GRADE"	1 = PK, 2 = K, 3 = Elem, 4 = Middle, 5 = HS	Project	PI
GRADE SPAN OF SCHOOL "GRSP"	1 = Elem, 2 = Middle, 3 = High School	School	Calculated from Enrollments on LSO forms
PROJECT SETTING "LOCUS"	1 = Limited Pullout 2 = Extended Pullout 3 = In Class 4 = Replacement 5 = Add-on 6 = Other 0 = PK, K not specified	Project	PI
STAFF MIX "STAFMIX"	1 = Teacher only 2 = Aide only 3 = Both teacher and aide	Project	Computed from TEACHER and AIDE variables for project
"PROJECTS"	Count of projects in a school.	School	SI, LSI
SCHOOL ACHIEVEMENT "RSCORE"	First reported reading score for school population for one grade.	School	LSO
DOES SCHOOL SERVE ALL ELIGIBLE CH 1? "ALLSRV"	1 = Yes, 2 = No	School	Reported on SI, LSI
CHAPTER 1 ACHIEVEMENT "SIACH" "LSIACH"	Reading achievement for comp ed group only for one grade.	School	Reported on SI, LSI
PER PUPIL EXPENDITURE "PPE"	(TEACHER * teacher salary) + (AIDE * aide salary) divided by duplicated count.	School	Calculated from TEACHER, AIDE, salary info., and TOTB
CHAPTER 1 CONCENTRATION "CHICON"	(TOTA/school population) * 100	School	PI, LSO, SI, LSI
PERCENT POVERTY "POVPCT"	Reported percent of school in poverty.	School	LSO

Table A-1 (continued)

Variable	Definition	Unit(s)	Source
POVERTY INDEX "POVINDEX"	The ratio of Chapter 1 concentration to school poverty percent (CHICON/ POVPCT).	School	Calculated from CHICON, POVPCT
BILINGUAL CONCENTRATION "BILCON"	Percent of school enrollment in bilingual program.	School	Calculated from LSD, S1-04, LS1-04
LD CONCENTRATION "LDCON"	Percent of school enrollment in LD program.	School	Calculated from LSD, S1-05, LS1-05

compensatory schools are considered those schools that operate only state or local compensatory projects[2] and Chapter 1 schools are considered those schools that operate only Chapter 1 projects. Multi- funded schools may operate either multi-funded projects or the combination of Chapter 1 and state or local projects or both.

FIGURE A-2: Types of Projects in Different Compensatory School Types

	School Type		
Project Type	Chapter 1	SCE/LCE	Multi-funded
Chapter 1	There must be a Ch. 1 project in Chapter 1 school.	There cannot be a Chapter 1 project in an SCE school.	Possible
SCE/LCE	There cannot be an SCE project in a Chapter 1 school.	There must be an SCE project in an SCE school.	Possible
Multi-funded	There cannot be a multi-funded project in a Chapter 1 school.	There cannot be a multi-funded project in an SCE school.	Possible

Mega-Districts

The standard procedure was to survey all schools in each of the seventeen school districts. However, two of the districts (#16 and #17) were prohibitively large. In these two districts, Chapter 1 schools were sampled with a sampling fraction less than unity.

[2]For some analyses Chapter 1 and multi-funded schools were combined and jointly considered Chapter 1 schools. This was done so that all schools with any Chapter 1 funding would be identified as one group. When this type of categorization was used, it is noted in the text of this report.

Scatterplots

Bivariate scatterplots have been used to illustrate the relationships among many of the most relevant variables of analytical interest. Scatterplots were chosen, since in addition to providing correlation coefficients, they graphically portray all data points in the array. Because of this, inspection of scatterplots not only indicates the general pattern of association, but also identifies outliers and other uniquely interesting cases.

One must take great caution in interpreting abstracted summary statistics, such as correlation coefficients, with these data — since most of our analyses are based upon a limited number of observations (frequently less than ten). These summary measures of association can be dramatically affected by measurement error or by a sole outlier observation. In such cases, conclusions based on correlation coefficients may differ from those arrived at from a visual inspection of scatterplots. When this occurs, it is always good judgment to accept the patterns suggested by the scatterplots.

Similarly, throughout this report comparisons of group means have been made. One should always be sensitive to the possibility of outliers or measurement error driving these group differences.

Analytical Techniques

This report predominately employs simple descriptive and comparative analytical techniques. Since all analyses are either univariate or bivariate, one should always be sensitive to possible extraneous variables which may result in spurious association between any two variables of analytical interest.